TESTS: Honda GL1100A Aspencade, BMW R65LS, Honda GL1100 Gold Wing, Honda GL1100 Interstate

SPECIAL EDITION

CYCLE GUIDE

Open-Class Comparison: Honda CR480R, Suzuki RM465Z, Yamaha YZ490J

SPECIAL EDITION: Helmet Buyer's Guide

APRIL 1982 $1.75 47457 UK 1.10p

ASPENCADE

Honda Rides Past the Interstate in Long-Haul Luxury

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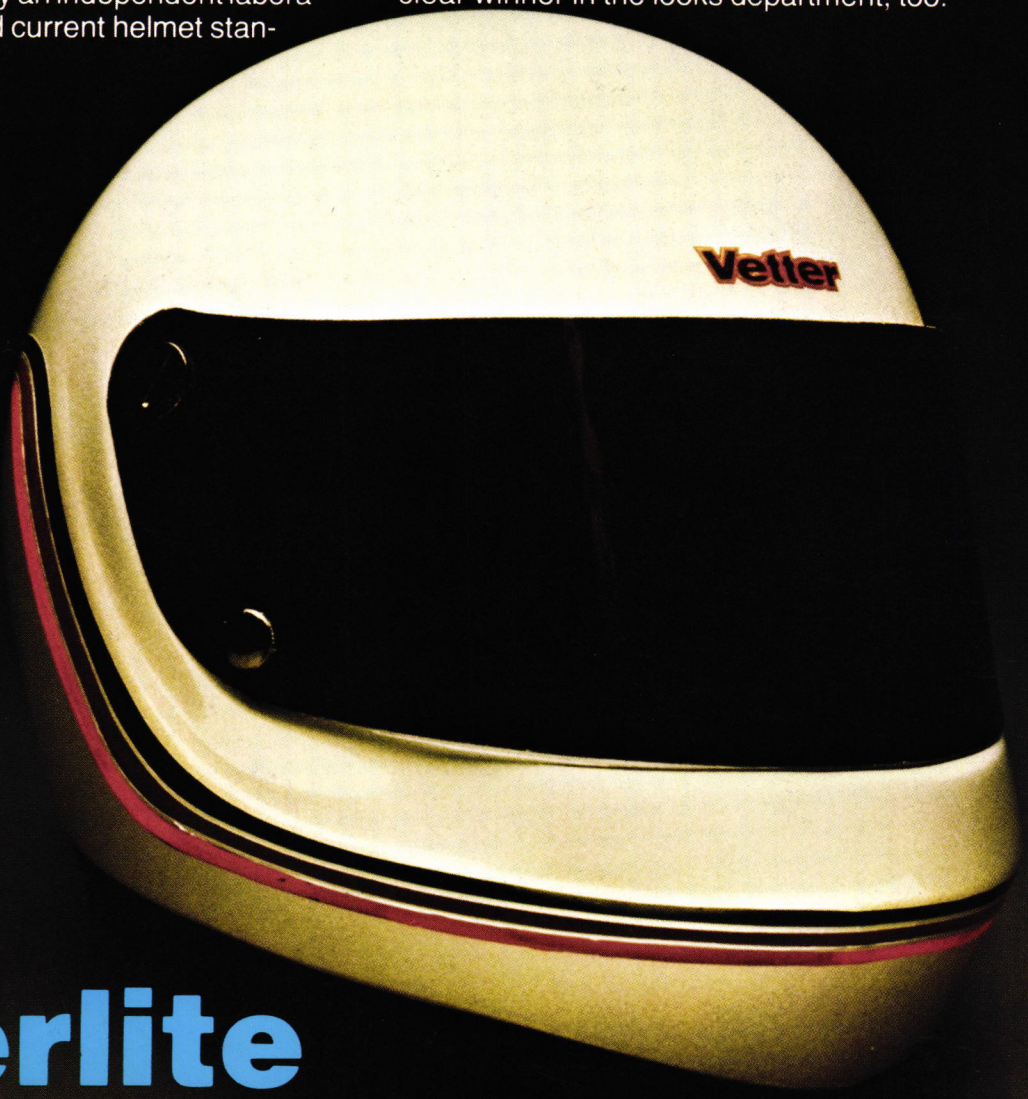
Vetter's revolutionary advances in helmet technology have given a whole new definition to the word "value" in motorcycle helmets. Designed for maximum safety and comfort, the Vetterlite™ outperforms even the most expensive helmets. The charts tell the story. Based on Department of Transportation standard tests and verified by an independent laboratory, Vetterlite far surpassed current helmet standards and shattered the performance ratings of a leading fiberglass helmet. In the five-inch flat anvil test, the Vetterlite helmet absorbed 30% more force; and in the four-inch dome test, it held a 40% edge over its competition. Vetterlite's sleek European styling and ultra-thin reflective graphics make it a clear winner in the looks department, too.



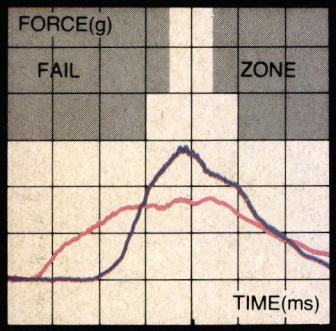
New "trick" open face helmets available in the late Spring.

Introducing

Vetterlite

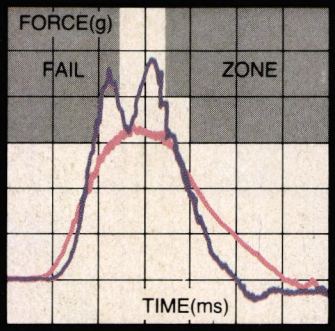
HROW

IMPACT FELT BY HEAD
4" HEMI DOME TYPICAL AMBIENT TEST



Maximum force transmitted to the head:
Vetterlite: 82g
Competition: 138g

IMPACT FELT BY HEAD
5" FLAT DOME TYPICAL AMBIENT TEST



Maximum force transmitted to the head:
Vetterlite: 163g
Competition: 235g

Vetter has replaced antiquated traditional helmet construction methods with space-age technology and materials. Unlike the cheap styrofoam used in other helmets, our liner is made of expensive non-rebounding foam that contours to your head shape so it feels light and comfortable, even after hours of wear. Plus Vetterlite will keep on looking new due to its unique chip resistant high-gloss surface. Our "diamond hard" scratch resistant anti-fog faceshield should last the life of your helmet; and Vetterlite offers an exclusive light-sensitive lens option so the light will always be just right. The faceshield adjustment is simple and really works, thanks to a simplified friction disk.

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Vetterlite. A lot more than just another pretty helmet.

Vetter
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CYCLE GUIDE'S CYCLE GUIDE

OFF-ROAD

MAKE & MODEL	TYPE*	ISSUE	ENGINE TYPE	WHEEL TRAVEL, IN. FRONT/REAR	WEIGHT, LBS	RAKE/TRAIL, DEGREES/INCHES	GEARS
Can-Am 250 MX-5-'79	MX	Jan. '79	Two-str.	10.8/10.0	218	29.5/4.9	5
Can-Am 250 Qualifier III-'80	EN	Feb. '80	Two-str.	9.7/9.8	230	30.0/5.0	6
Cam-Am 400 MX-6-'80	MX	June '80	Two-str.	11.5/10.8	233	29.0/4.8	5
Honda CR125R-'81	MX	April '81	Two-str.	10.6/11.5	213	29.5/4.8	6
Honda CR250R-'80	MX	May '80	Two-str.	11.8/11.0	222	28.3/4.5	5
Honda CR480R-'82	MX	April '82	Two-str.	11.5/12.0	232	27.2/4.2	4
Honda XR200R-'81	EN	Sept. '81	Four-str.	9.0/10.2	228	28.4/4.9	6
Honda XR500R-'82	EN	Nov. '81	Four-str.	9.5/10.0	289	28.0/4.4	5
Husqvarna 125CR-'80	MX	Nov. '79	Two-str.	11.8/11.8	214	31.0/5.6	6
Husqvarna 250WR-'81	EN	July '81	Two-str.	9.5/10.3	248	29.5/6.0	6
Husqvarna 420AXC-'80	EN	Oct. '80	Two-str.	11.5/11.9	239	30.5/6.0	4
Husqvarna 430CR-'82	MX	Jan. '82	Two-str.	11.8/11.3	236	30.5/6.0	6
Kawasaki KDX250-'81	EN	July '81	Two-str.	9.9/11.0	248	28.0/4.7	6
Kawasaki KDX175-'81	EN	Dec. '80	Two-str.	9.6/9.8	222	28.0/4.7	6
Kawasaki KX125-'81	MX	Jan. '81	Two-str.	10.4/11.3	207	28.0/4.7	6
Kawasaki KX250-'80	MX	Sept. '80	Two-str.	11.3/11.2	233	28.0/4.7	5
Kawasaki KX420-'80	MX	July '80	Two-str.	11.0/11.3	250	28.0/4.7	5
Maico 400 MI-'80	MX	April '80	Two-str.	12.3/12.0	233	28.0/4.9	5
Maico 450 MI-'80	MX	April '80	Two-str.	12.3/12.0	236	28.0/4.9	5
Suzuki PE400-'81	EN	Nov. '80	Two-str.	11.3/11.3	250	29.6/4.9	5
Suzuki RM125-'81	MX	June '81	Two-str.	10.8/11.7	205	29.5/4.8	6
Suzuki RM250-'82	MX	Feb. '82	Two-str.	10.3/11.0	217	29.3/4.8	5
Suzuki RM465-'82	MX	April '82	Two-str.	10.8/12.0	234	29.3/4.8	4
Yamaha Pro-Tec 600-'79	MX	Nov. '79	Four-str.	10.5/10.1	262	27.0/4.3	5
Yamaha TT250-'80	TR	Aug. '80	Four-str.	8.8/7.5	242	28.5/4.7	5
Yamaha YZ250-'82	MX	March '82	Two-str.	11.0/11.0	235	27.5/4.7	5
Yamaha IT465-'81	EN	May '81	Two-str.	10.0/11.4	247	28.5/4.8	5
Yamaha YZ490-'82	MX	April '82	Two-str.	11.3/12.8	238	28.5/4.7	4

*DP=Dual Purpose, EN=Enduro, MX=Motocross, TL=Trials, TR=Trail

STREET

MAKE & MODEL	ISSUE	ENGINE TYPE*	QUARTER-MILE, SEC./MPH	TOP SPEED, MPH	WEIGHT, LBS	FUEL CONSUMPTION, MPG	STOPPING DISTANCE FROM 60 MPH, FT.
BMW R65-'81	March '81	2C/G	14.16/92.1	109	423	45-50	133
BMW R65 LS-'82	April '82	2C/G	14.15/92.4	109	417	35-50	138
BMW R100RS-'81	May '81	2C/G	13.48/98.4	127	492	34-52	145
BMW R80 G/S-'81	Nov. '81	2C/G	14.07/92.3	105	405	36-54	NA
H-D FXRS-'82	Dec. '81	45-deg. 2D/F	13.92/93.1	109	594	40-47	124
H-D Tour Glide-'80	Sept. '80	45-deg. 2D/F	15.58/83.9	108	785	35-44	161
Honda GL500 Interstate-'81	Aug. '81	80-deg. 2E/G	14.88/86.4	96	517	39-53	140
Honda CX500 Turbo-'81	Sept. '81	80-deg. 2E/G	NA	136	549	NA	NA
Honda CB750F-'81	June '81	4A/F	12.40/108.3	118	526	38-53	126
Honda Nighthawk 750-'82	March '82	4A/F	12.74/103.8	131	543	36-49	128
Honda CB900F-'81	July '81	4A/F	12.21/111.1	141	547	41-47	130
Honda GL1100A Aspencade-'82	April '82	4C/G	13.23/98.8	139	724	40-50	145
Honda CBX-'81	May '81	6A/F	12.01/113.9	136	646	23-40	130
Honda CB1100R-'81	Nov. '81	4A/F	NA	155	518	31-48	NA
Kawasaki KZ440D-'81	Feb. '81	2A/H	14.59/89.1	107	383	56-64	135
Kawasaki GPz550-'81	Sept. '81	4A/F	12.97/101.7	119	449	52-63	149
Kawasaki KZ750-'81	June '81	4A/F	12.43/108.2	128	471	38-60	128
Kawasaki KZ1000J-'81	Feb. '81	4A/F	11.62/116.3	130	521	30-51	135
Kawasaki KZ1100A-'81	April '81	4A/G	11.62/117.6	142	559	38-44	NA
Kawasaki KZ1100 Spectre-'82	March '82	4A/G	11.96/110.4	142	553	36-44	132
Kawasaki GPz1100-'81	July '81	4A/F	11.44/118.6	133	538	38-47	158
Kawasaki KZ1300A GT-'80	Sept. '80	6A/G	12.71/107.4	135	730	31-45	146
R.C. Turbo CB750F-'80	Oct. '80	4A/F	11.99/113.8	NA	523	27-39	135
Suzuki GS550 Katana-'82	Jan. '82	4A/F	NA	103	420	41	NA
Suzuki GS750E-'82	Jan. '82	4A/F	12.01/109.1	127	519	34-49	127
Suzuki GS1000E-'80	Aug. '80	4A/F	11.98/113.9	136	528	32-50	137
Suzuki GS1000G-'80	Aug. '80	4A/G	12.34/110.8	139	564	30-51	141
Suzuki GS1000S Katana-'81	Dec. '81	4A/F	11.40/118.7	141	525	33-51	129
Suzuki GS1100E-'81	July '81	4A/F	11.36/118.6	141	535	43-48	123
Suzuki GS1100 Twin Turbo-'81	Oct. '81	4A/F	NA	172	548	NA	NA
Yamaha RD350LC-'80	Dec. '80	Two-str. 2/AF	13.23/101.0	113	328	NA	126
Yamaha XJ550R Seca-'81	May '81	4A/F	12.99/101.7	121	418	44-55	119
Yamaha XJ650 Maxim I-'80	June '80	4A/G	12.60/107.4	120	453	40-54	128
Yamaha XJ650-'80	Nov. '80	4A/G	13.19/102.4	125	476	43-44	NA
Yamaha Seca 750-'81	June '81	4A/G	12.26/108.0	128	495	44-56	134
Yamaha 750 Virago-'81	March '81	75-deg. 2D/G	13.28/99.8	105	481	47-51	132
Yamaha XV920R-'82	Feb. '82	75-deg. 2D/F	13.10/100.4	112	509	37-51	128
Yamaha 920 Virago-'82	Feb. '82	75-deg. 2D/G	12.94/101.6	108	514	36-49	134
Yamaha XS1100L-'81	Jan. '81	4A/G	11.99/113.5	130	562	41-46	133

*A-Transverse Vertical, B-Vertical, (single-cylinder only), C-Horizontally Opposed, D-Tandem Vee, E-Transverse Vee, /F-Chain Final Drive, /G-Shaft Final Drive, /H-Belt Final Drive

CYCLE GUIDE

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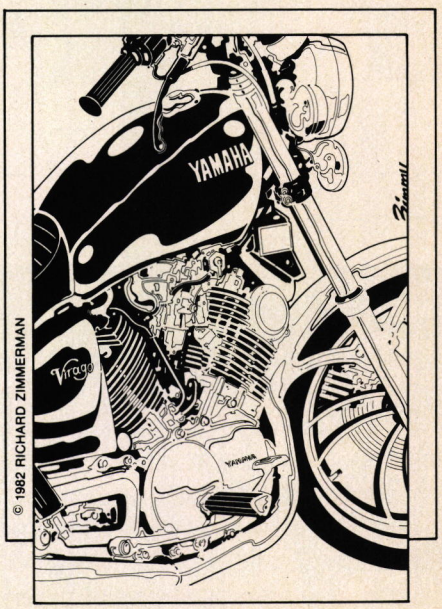

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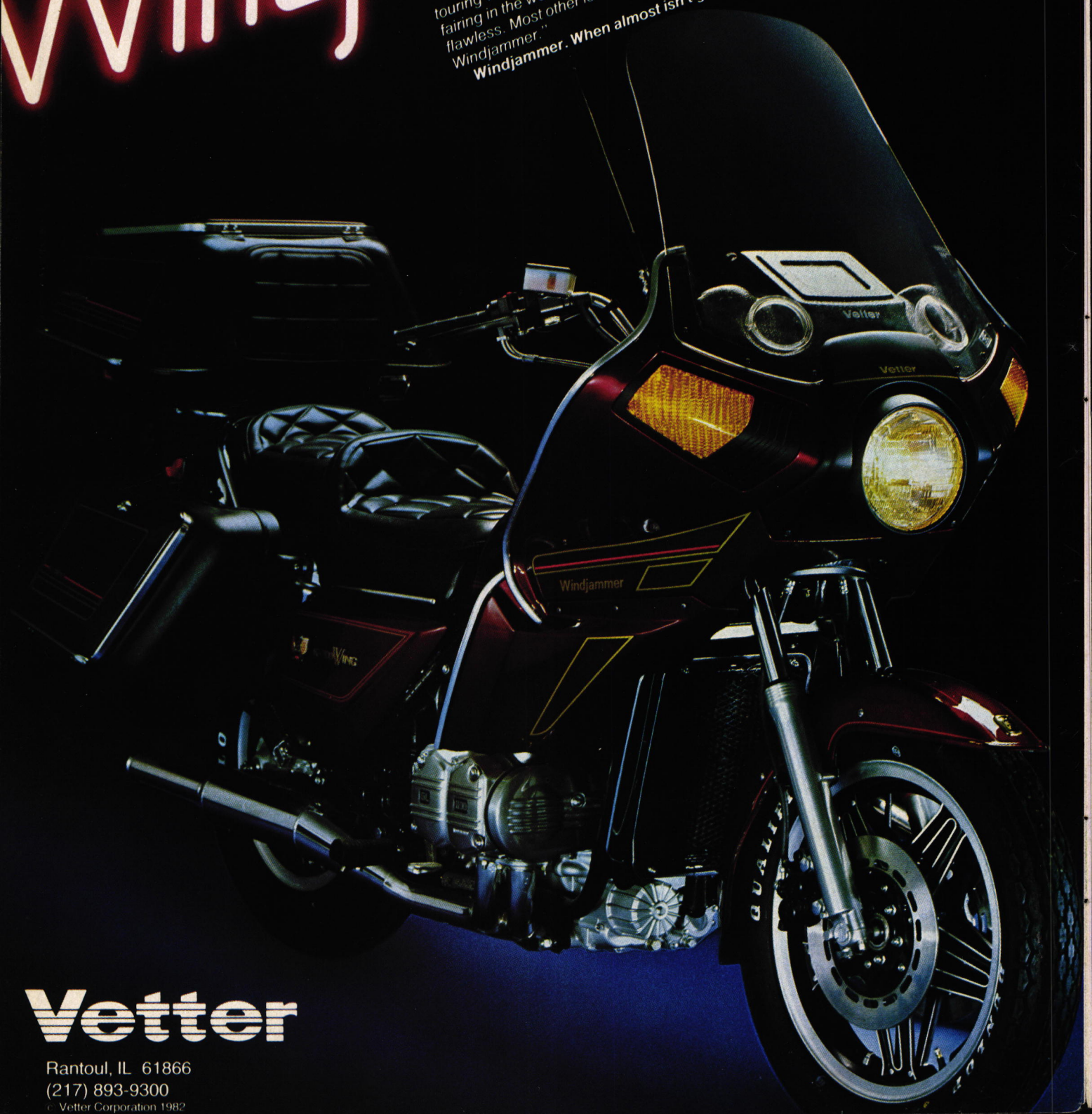

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Editorial

Dial-A-Bike

Bespoke motorcycles for everyone in the house.

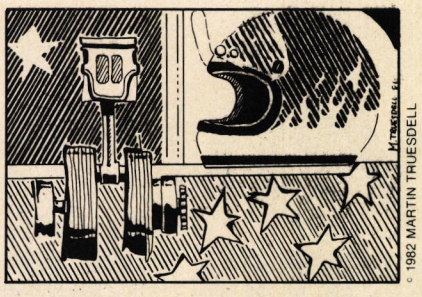
• If you've ridden awhile or are blessed with riding partners of long experience and long memories, you're lucky. You have some referent for motorcycles that could be tuned by an owner of limited mechanical abilities. Devices that never heard of turbocharging or of the wizardry of black-box technology. Machines that invited the occasional spinning of a wrench.

They're mostly gone now, having succumbed to the allure of motorcycles of greater ingenuity and superior capability. And with their passing, much of that casual invitation to tinker went as well. Leading some to the conclusion that the U-tune-it motorcycle is dead for all time.

Nonsense. I'm here to tell you that the bike that cries out for a little fiddling is back. Different, true. Reincarnated for the Eighties into an almost unrecognizable form, true again. But back. What I'm asking you to consider is a motorcycle that can be tuned for performance like no other ever has. It's just that the area of the bike's performance that can be adjusted concerns how it relates to *you*, not how it takes to the road or how it satisfies the ineluctable skepticism of a stopwatch.

That motorcycle exists right now, though in an admittedly rough prototypal form. And there's a qualitative and quantitative difference in the kind of wrenching this prototype requires. It's so much the prototype, in fact, that its functional pieces are strewn about on motorcycles with different points of origin. No one manufacturer yet has displayed the good sense to assemble them.

The bits for this performance bike come from some unlikely places. Honda's Gold Wing has for years used one of them. It's a seat that can be moved forward and back on a track, to offer more accommodation for both tall and short riders. Another piece of this adjustobike can be found on Honda's new Magna, in the form of separate right and left handlebars that can be moved in a limited range to set handgrip height and, by rotating each handlebar in its clamp, grip-to-grip distance as well. The system makes the traditional handlebar, with its limited range of adjustment, seem Stone Age. But Honda isn't alone. Some Laverdas, too, have featured handlebars adjustable for more than simple degree of rotation back to the rider. And Yamaha also is on the virtual ground floor of adjustable ergonomics. The 1982 920 Virago has adjustments to change the



relative position of the handgrips, while the Maxim 750 takes the concept a clear step further, with not only "smart" handlebars but rider footpegs and foot controls that allow fore and aft movement in a limited range.

Of course, technology and the marketplace being what they are, the adjustments built into these street bikes are only the start. When the sales features on adjustobikes start being taken seriously as real-world reasons to make—or more pointedly, *not* to make—a motorcycle purchase, the era of the dial-a-bike will be in full swing. And when the ergonomics corner finally is turned, the combined engineering talent of the motorcycle manufacturers will descend on the problem as if it were *the* problem.

Some, naturally, already have labeled the swing toward adjustable ergonomics as a mere distraction. They bandy the notion that some engineer somewhere devised motorcycle ergonomic tuning as the opiate of the motorcycling people, as it were. Just something to take the rider's mind off the truth—that his motorcycle's innards are yearly becoming more remote, either through becoming complicated beyond his ability to repair them or by growing more sealed to his tools through the edicts of government. They then seize on the idea that adjustable ergonomics are also the visible evidence of some manufacturing plot to create all motorcycles out of the same basic bike, thus saving untold tooling costs.

That line of argument is fine for idle chatter, but it ignores some very real considerations. For one, the immediate beneficiary of being able to custom-tailor a motorcycle to himself is the rider. For another, if tuning a motorcycle for different riding styles just as you would tune adjustable suspension for different road and load characteristics extends the range of the motorcycle's usefulness, who benefits? The rider again. And third, the move already has begun, however slowly it started. You can't hold back the future. And in this case, there's no reason to.

What will come of it all? It takes a not very powerful imagination to realize that the trend that began with seats that slide fore and aft eventually will include seats that raise and lower, according to rider whims. And once the seat height—and width—question comes under engineering scrutiny, can motorcycle saddles with adjustments for seat tension be far behind? Any manufacturer capable of fielding a multi-cylinder street bike will have little or no problem designing adjustable air bladders or gel sacs into motorcycle seats. And while they're at it, why not heating elements to warm the seat—if not the heart—of every rider who's had to face the prospect of a gloomy, foul-weather ride, with little for comfort save the frigid touch of Naugahyde? From there, of course, it's only a short reach to handgrips that not only can be moved to position and can warm up on command but also arrive with air-pressure adjustments to alter the diameter of each grip to fit anyone's grip. And it's an even shorter step to footpegs and foot controls that are adjustable to suit riding styles all the way from laid-back street cruising to hard-charging café knee-dragging. And everything in between.

Small points, you say? Perhaps. But even ignoring the question of setting up your bike to whatever riding whim strikes you on a given day, there's something left. With fully adjustable ergonomics, you could not only make full use of your bike's riding usefulness but your own as well. If you could, merely through the judicious application of a gas station air hose, dial out that crick that threatens to lock up your knees after a few hours in the saddle; or if, with five minutes' wrenchwork you could wipe out that annoying bend in the handlebar that strains your wrist, makes using the throttle slower and always digs your watchstrap into the back of your hand, wouldn't you?

Maybe not. There are those of us who bite our lips or grind our teeth for the simple joy that comes when we stop. Not me. I figure that the ergonomics adjustments I've seen so far are only the first testing of the waters. And I say the water's safe. Look forward to an era of motorcycles you can get comfortable with.

—Larry Works

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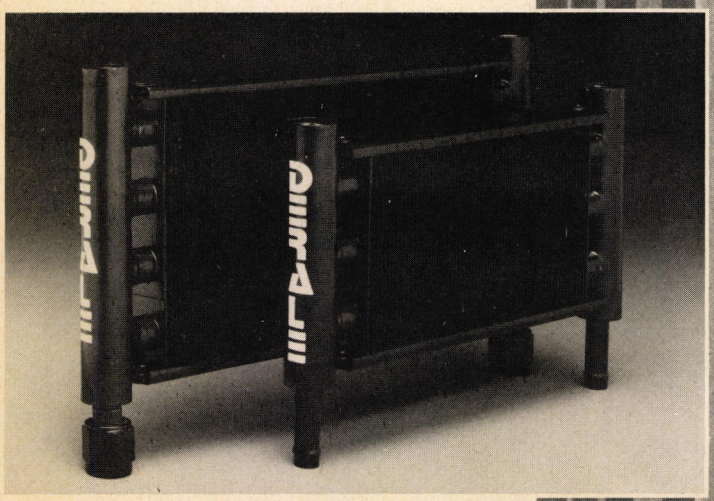
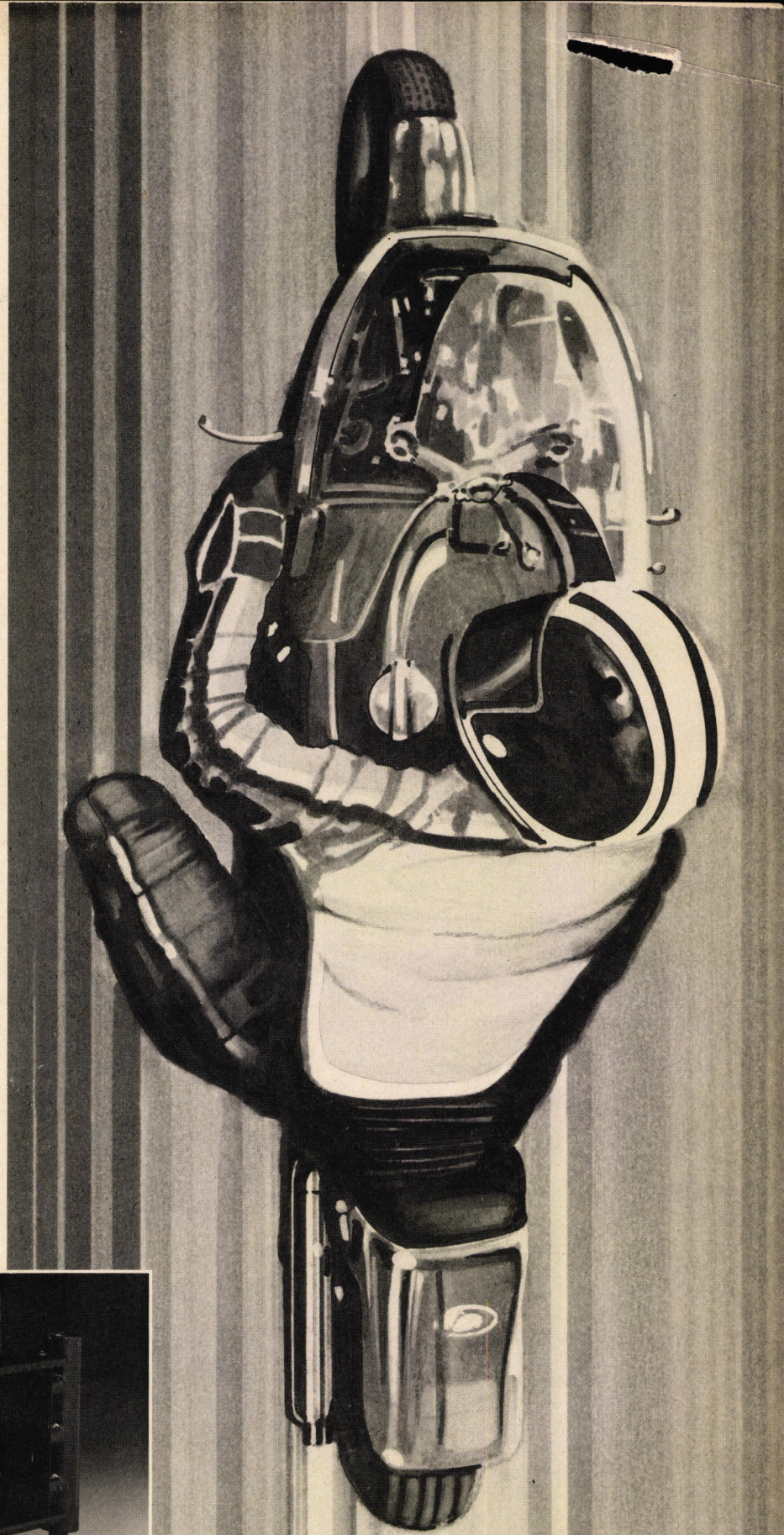
	Air Temp.	MPH	Oil Temp. Without Cooler	Oil Temp With Cooler	Temp. Drop
Derale	91	60	217	179	38°
Lockhart	90	60	217	205	12°



Competition Oil Cooler (rear); Street Oil Cooler (front)



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Rain

Special pleasures, not for everyone.

• "Sure, but what do you do when it *rains*?" If you and I had a nickel for every time some leering jerk asked us that, we'd have enough dough to keep 'em away from us forever.

Neither the leer nor the question are too far wrong, of course; your own instant survey will tell you that most riders simply park their bikes when the skies open, opting—if they have the choice—for something warm and dry to take to work. It's too bad, too, because rain is okay. In fact, I think touring in the rain is more than okay, it's wonderful.

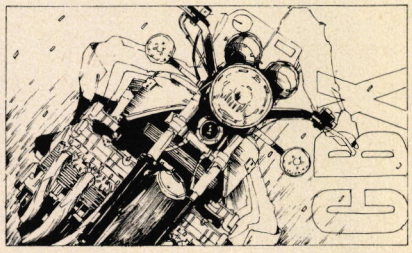
There are two reasons. The first is the easiest to explain. Simply put, when it rains, anyone who can usually avoids driving or riding. Thus the road population is promptly thinned, as you always wish it would be when you're stuck behind an endless line of traffic on some sunstruck holiday. Rain brings you your wish.

The second reason is harder to define. It's made up of wanderlust and romance, of rarely appreciated natural splendor and stillness. Half—or maybe more—of the value of motorcycle touring is in the immersion in nature; we tell ourselves continually that the difference between car and bike touring is the way a bike puts you *in* the world, a 360-degree, five-senses experience. So why cut off the beauty and drama of the world wreathed in rain?

No reason at all, for me. That's why I love to ride in the rain. However, like anything related to motorcycling, there's a considerable body of tricks and technique to be understood before the experience of rain-riding becomes positive. You have to grasp the relationships of you, your bike, the road and the weather.

First, the rider. The fundamental tenet of rain-work is that you must be able to stay dry and warm. Not only are there psychological drawbacks to a cold-and-wet body, the physiological aspects are formidable, too. Get wet, stay wet, and you're most likely destined for a sickbed somewhere. And while you're wet, you're distracted, your resistance to fatigue is lowered. You're not riding your best. That all should drive the purchase of the very best raingear available.

Your helmet also deserves special attention. It will most likely require a piece of weatherstripping sealer around its window if it's a full-face. If it's an open-face, duct tape around the shield will do the same job. These are especially crucial steps if



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you ride with a fairing, because the peculiar pressure effects behind your windscreen can force water around corners of a helmet shield easily. Futhermore, extra faceshields and plenty of toweling are vital, as are whatever defogger you like best.

Your gloves won't do for this mission if they're anything but perfectly sealed, either. Most riders who work a lot of wet use layers; a silk inner glove, then a warm, lined leather glove and then some kind of Playtex Living Rain Beater glove, straight from the dishwashing department. They look silly, but they keep you dry when nothing else will.

The same goes for your boots. A warm set of socks under your regular boots, then a tall waterproof rubber overboot is the best bet—and it should have some kind of sturdy, gripping sole, preferably lugged somewhat for slick mud. It isn't pretty, but it works.

In between, your rainsuit should be one-piece and with as few zips and snaps as possible. Water seeks "sealed" closures with unerring accuracy—usually in your crotch. Wear warm, tough riding gear underneath, both for heat retention and for possible get-offs.

Some tricks to augment all this suiting up have evolved at the CG offices through the years. One is to wrap a towel around your neck and snap your rainsuit over it. Another is to use a bandana over your mouth; it has two values. First, it keeps your chin warm, and second, it lessens the tendency of your breath to fog the inner surface of the visor. Some staffers like Apple Warmers, too, as well as balaclava-style silk headcovers.

Attention to your bike should be no less thoughtful. Start at the ground and work up. Your checklist is: tires (tread depth, condition and inflation); suspension; brakes (adjusted? correctly filled reservoirs?); drive system (chain—lubed? adjusted? shaft—rear-end reservoir okay?); engine and gearbox, and controls. You need to spend this time in your warm garage to check everthing because you absolutely, positively *do not* want to have to deal with it in a downpour.

Of course, rain isn't a fixed phenomenon. You should acquaint yourself with the general weather picture before you set out. If you're in for a spell of drizzle, fine. But what if it turns genuinely nasty—gale-force winds, near-zero temperatures—when you're in the wrong place?

The idea isn't to win the Ernest Hemingway Medal for Foolish Bravado; the idea is to savor a special kind of riding. Thus in additon to preparation, you ought to avoid some obvious low-traction traps. Keep your control actions gentle and smooth. Stay away from the center of any lane, along with the Botts dots and paint on the road—RIGHT TURN ONLY commands on pavement are slicker than a rich used-MX bike salesman. You'll discover that the beauty of a well-washed backroad is that once you get used to exactly how the tires feel, you can go quite quickly without danger; the bike might move around a little more, but if your tires are good and you're not in the middle of a gully-washer, the bike's drift will be predictable and controllable. But that's an edge you probably won't want to explore until you've gained a logbook full of hours in the wet. Whatever your speed, the operative rule is to add time and distance to any maneuver, and the key to enjoying it all is to relax. If you ride tensely, you'll overreact and overcontrol—and *that* can have lasting consequences.

When you add up the preparation effort and time, along with the heightened perceptions you need on the road to proceed at a satisfactory pace, it all seems a little exhausting at first. You'll survey the pile of foul-weather gear you've stacked up, peer out the garage door at the gray sheets and wonder if it's all worth it. After all, there's the game room inside, or the movies downtown, reached via Chevy.

Sure. But there's a difference, too. It's in the vision you get out on Route 19 as the clouds break for a split second, when you're all alone on the shining road, the sweet smell of the sky in your nose and the caress of the rain on your shoulder. The difference is that *it's* real.

—Steve Thompson

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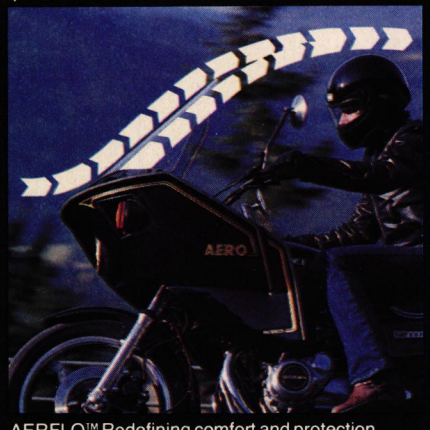

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PUT YOURSELF IN THE LEAD. You can leave traditional fairings behind. Put style, comfort and protection out in front of you with a Pacifico fairing.

Write or call for a brochure today, or order direct by calling 1-503-666-5502. Aero...$399.00; Aero-Foil...$149.95; Classic...$499.00. Classic and Aero prices are for black, silver or white with standard windshield. Color matching, mounting brackets and options available. Aero-Foil price includes standard windshield and mounting kit, black only. Tall windshield version optional. Certified check or money orders only.

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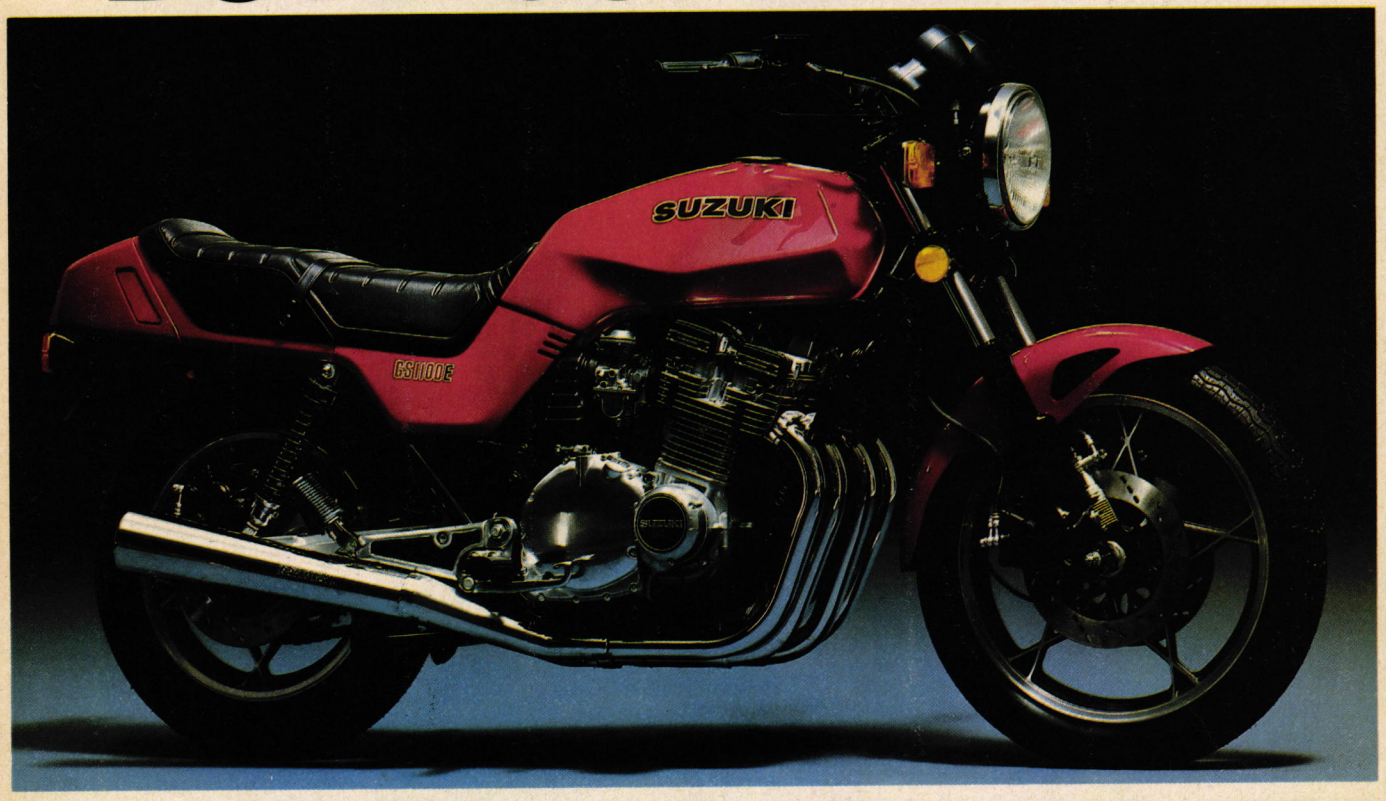

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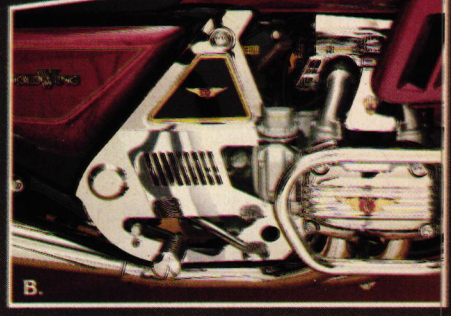

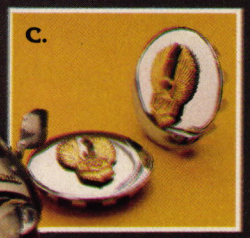

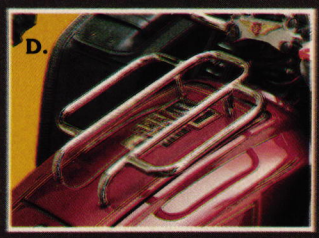

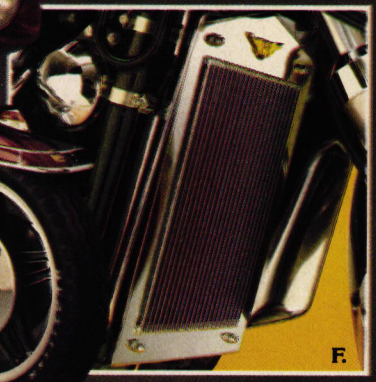

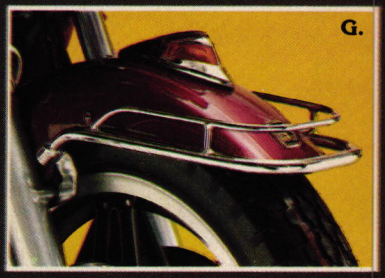

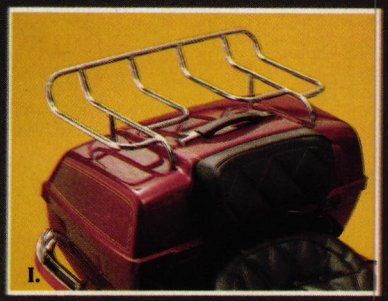

Drag Specialties knows. To create the ultimate Wing, you require accessories that provide uncompromising comfort and appearance. These demands are satisfied through our constant research, engineering, product experience and innovative designs. This provides you, the rider, that ultimate choice. The following is just a sampling of that dedication. A. Headlight visor w/24K gold plated GW™ or 1100 wing, 12.35. B. Chrome side covers GL1100,™ 119.95 set. C. Chrome swing arm plug covers w/24K gold plated wing, 11.65 pr. D. Tourwing™ tank rack, 39.95. E. Baron marker lights, 9.95 ea. F. Rolls Wing grill, chrome or brass, 79.95-84.95. G. Tourwing™ fender trim, 36.85. H. Interwing™ saddlebag trim rails, 39.95 pr. I. Interwing™ tour box rack, 65.00. J. Dragard™ face shield, black or white, 19.95. K. Driving light brackets, 29.95 set. L. Tourwing™ lower leg light brackets, 16.95 pr. M. Tourwing™ exhaust extensions in (2) lengths, 49.95-52.95. N. D.S. Bomber leather jacket, 136.35. O. D.S. San Diego leather jacket, 169.10.

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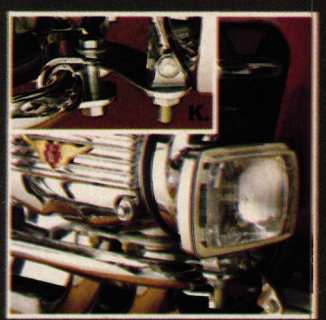

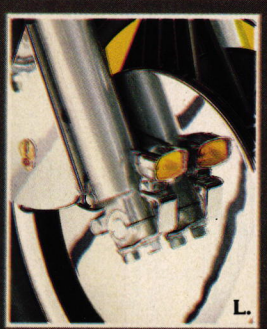

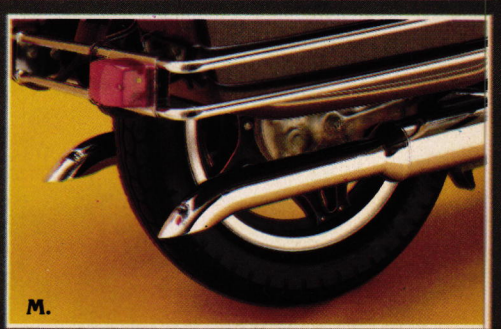

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Setting It Right

Touring Sans Luggage

Revisionist riding in the Twentieth Century.

• Civilization is centered in no country. It is, however, centered in many a city; so why is everything that I read about motorcycle touring apparently aimed at enticing riders out into the country? Is it because of that universal assumption, so effectively put about by the Amalgamated Union of Tar and Feather Operatives, that all motorcyclists are uncivilized and therefore would not be interested in learning what the greater cities have to offer? Is it because of the deep-seated fear, fostered by the Cinema Box-Office Exploitation Guild, that all motorcyclists are dirty, uncouth, unwelcome and had better stay out of town for the sake of their own if not of public health? Or has it simply failed to occur to motorcyclists that the ambitions of riders in the 1920s and before might be overdue for revision?

Then or thenabouts—earlier in the U.S.A., later in Europe—a motorcycle might be the first motor vehicle that a working-class man could aspire to own, the first means to freedom that he could effectively enjoy. What he has since done with this freedom may sometimes make us wonder whether he appreciated it: When we see the great sheeplike trails of motorcyclists all heading in line astern for the same holiday resort, we may debate whether people truly seek independence. But we must remember that this lemming-like rush was in fact fostered by the railways, and that the coming of the automobile and the motorcycle simply provided for some people a substitute means of locomotion without altering their perceived notions of desirable destinations. At any rate, the motor vehicle rapidly began to give people a chance to take holidays such as they had never been able to, a chance to travel and learn such things as their masters might have been reluctant to have them taught.

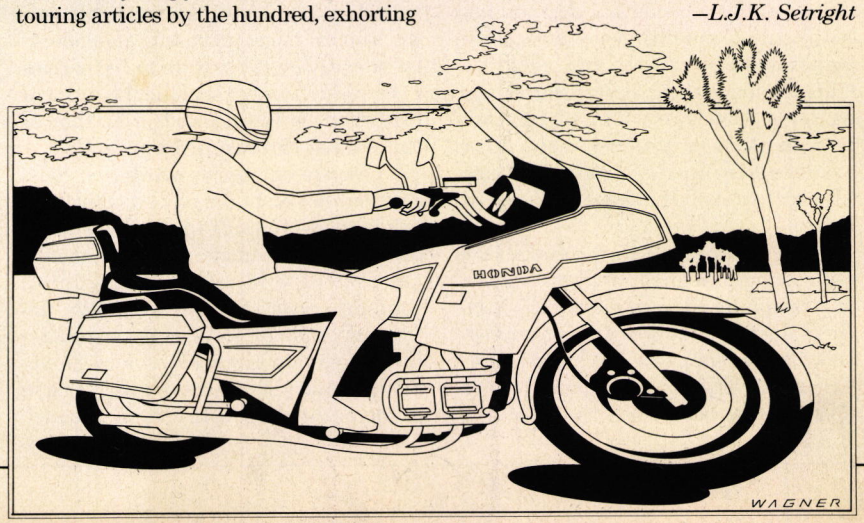
Sir Kenneth Clark, the art historian and chronicler of "Civilization," said in his book of that title that what made the Dark Ages so dark were *the isolation, the lack of mobility, the lack of curiosity and the hopelessness.* Of course: The want of mobility imposes isolation, the consequent inability to satisfy curiosity makes it less painful if that curiosity be suppressed, and then what hope can there be? It should follow that the potential for mobility, for communication, for curiosity and for hope—for all the antitheses of the Dark Ages oppression—conferred by the motorcycle on the ordinary private individual ought to be a civilizing influence. But are we using it properly to that end?

Look at a typical party of touring riders out on a trip together. Why, in the first place, are they together? Could it be because, in the absence of any significant change in the country through which they ride, they can only find interest in each other? After a couple of hours of vertical riding along some Superslab, it is time to halt to swallow a 'burger and drink a beer, to admire Harry's Duo-Glide and drool over Larry's Gold Wing. Another hundred miles and it is time for another halt, to sink a sub and swallow a beer, to drool over Harry's Gold Glide and admire Larry's Duo-Wing. And at the end of the day, when the cards are broken out and the bikes are fixed in, what can they look forward to for the morrow? Muckle mile upon mickle mile of stereotypical scenery, the time-and-unemotion continuum of God's Own Country: Of course He would never want to go there, but beyond a doubt it is His.

It is an old idea, and it is out of date, this emancipation of the working man and his working girl from the oppression of the dark Satanic mills in which their working lives were spent. That was what mobility first meant to the cities' cribbed and confined crowds. It meant venturing into new territory, new to generations of light-starved artisans because it was in fact old and unspoiled. Automobility had little to do with the mean daily shin-hacking commuter ride to and from work; it promised a cleansing and uplifting foray out into the countryside and the fresh air every weekend—which meant every Sunday to those working a six-day week. You can see it in the motorcycling journals of the period, in touring articles by the hundred, exhorting all those who were heavy laden with the soil and toil of a dismal factory town, to come unto Her, the Nature goddess, in all her restful manifestation of unspoiled woods and fields, along winding lanes that had not yet been insulted with superfluous concrete curbstones, pottering slowly enough to savor all the smells of fern and forest, of dill and dale, of bakehouse and oasthouse and silage and pig-slurry ....

Yet it is the great cities of the world which have so much to offer, so much to communicate to the curious, so much hope for the mobile; and there is no better means than the motorcycle for investigating these cities. Life is too short for public transport, parking too meager for cars, but a motorcycle can needle through the thickest tapestry that any historically complex city can traffic, and can pinpoint any source of light that one might seek there. City touring does not mean riding through and rubbernecking, as though the buildings were just so many hills or trees. You con a city by eating its food, seeing its plays, hearing its concerts, reading its books, and by observing its people in its own peculiar light. Try that on any substantial and adventurous scale in London or Paris or Rome—even in Cambridge or Rouen or Turin—without a motorcycle, and you might spend half a day in the attempt, only to spend the other half lamenting the impossibility of it all. But if you sought, in the easily ridden open country, any source as civilizing as the Victoria & Albert, say, or the Louvre—or the City Library, the Met, and the foyer of the Algonquin, should you prefer to stay at home and crank your way around the potholes of Manhattan—you will learn why, after Satan had set up all those factories, God gave us the motorcycle.

—L.J.K. Setright



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Techspeak

Oil: Synthetics Vs. Everything Else

Unsticking the wheels of progress with man-made lubes.

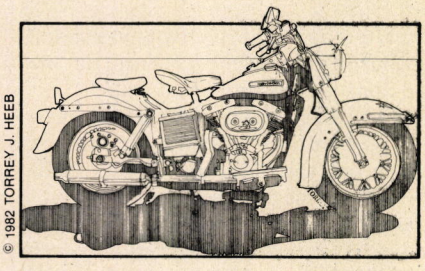
• As youngsters, most of us were imbued with the importance of a good reputation. We learned that once you get a bad one, it's damned near impossible to shed.

Such is the plight of today's synthetic oils in the eyes of many veteran motorcyclists. Because in days of yore, synthetic oils showed great promise in some areas but had serious shortcomings in others—like inadequate protection from rusting, incompatibility with certain types of gaskets and seals, plus insufficient lubricity (slipperiness) and film strength (resistance to penetration). Thus, many engine builders, a cautious and suspicious lot anyway, have remained unenthusiastic about synthetic lubricants even to this day.

As the name implies, synthetic oil is just that—man-made as opposed to being derived from one of nature's own sources like the petroleum-based (mineral) oils that are the most common and the vegetable-based (bean) lubricants such as castor oil. For quite some time, in fact, castor was the undisputed best lubricant. For film strength and protection of moving parts, this stuff was tops . . . to an extent. Because while castor oil was better than other lubricants in keeping metal parts from gouging one another into oblivion, it had (and still *has*, for that matter) some drawbacks. Among them: It left gummy deposits on everything it touched, it wouldn't mix (although it would temporarily disperse) in gasoline, it lacked heat stability and proved eager to oxidize in gasoline premix.

Nor were mineral-based oils without their ills, despite doing yeoman duty over the years in every kind of engine imaginable. Mineral oils don't have the high film strength of castor and they, too, are susceptible to thermal degradation and oxidation; but their ready availability, reasonable economy and relative efficiency made them almost universally appealing. Mineral oils also are compatible with alcohols, gasolines, many other types of oils (synthetics included) and pose no threat to such things as gaskets and seals.

In recent years, though, the availability and economy of mineral-based oils has been compromised by worldwide oil-shortage problems, be they real or contrived. And that has spurred a heightened interest in the development of more and better alternatives to petroleum-based products,



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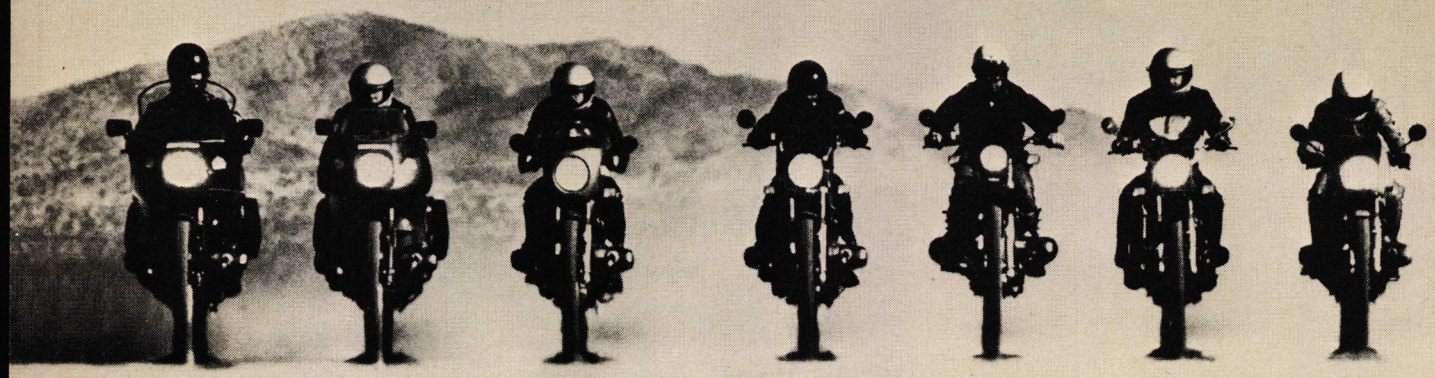
including engine oils. It has also signaled the need for the petroleum industry to "clean up" the tainted reputation that synthetics earned in the early Seventies, for the technological advances in that relatively young field have been considerable, whereas progress in bean- and mineral-based lubricants has been minimal.

The fact is that despite any problems they may have had in the last decade, synthetic oils meet the needs of the contemporary motorcyclist quite well indeed. They usually burn with exceptional cleanliness in the combustion chamber, obviating such maladies as plug fouling and carbon deposits. Other headaches have been chemically solved, too, including gasket/seal incompatibility and ho-hum lubricity for two-stroke bottom ends. And through the addition of the appropriate inhibitors, contemporary synthetics will neither drain off of metal surfaces nor attract water as they once did. Thus most of today's synthetic lubricants yield excellent lubricity, compatibility, rust control, viscosity control and heat stability. And it is with respect to that last trait, thermal stability, that synthetics score so highly, and that castor and mineral oils are mediocre by comparison. The molecular chains of synthetics can stay intact past the meltdown point of many engine parts. One manufacturer, for example, claims that his lubricant, a synthetic-petrochemical blend, maintains its molecular integrity all the way up to 700 degrees Fahrenheit. Another says that his oil has a film strength that exceeds even that of castor oil at elevated temperatures.

These are impressive attributes, to be sure, but not all of the motorcycling public's wariness towards synthetics is based on the oil's performance; for some, there is the fear of voiding their machine's warranty. Such concerns are mostly unfounded, though, for the bike manufacturers' recommendations usually specify certain brands of oils or, typically, "a high-grade equivalent"—the term "grade" referring to the A.P.I. (American Petroleum Institute) letter-code rating that's on every can of oil. Currently, the "SF" designation is the best, since the standards for this appelation are toughest. Next come "SE," "SD" and so on. The key here is that these codes are given to petro and synthetic oils alike; all that matters to the A.P.I. is that the oil being tested meets the standards. And the fact that many synthetics enjoy prestigious ratings should not be underplayed, nor should the fact that many of the oils recommended by the motorcycle manufacturers are syn-petro blends. (Suzuki's CCI Super 2, for instance, is a two-stroke oil that's a blend of 27 percent synthetics and 73 percent petroleum compounds.)

All of this inevitably gives rise to the all-important question of which oil—synthetic, petroleum, castor or even a blend of some or all three—is the best for any combination of rider and motorcycle. And the answer is, of course, that there *is* no best, simply because there are as many different lubrication requirements as there are motorcycles, really. A high-winding, high-mileage four-stroke multi, for instance, might find a straight synthetic so slippery as to work past its worn-out rings and cause smoking, whereas a syn-petro blend just might not. A two-stroke owner might find a straight synthetic's ashless burning to be of great value; but if he is given to riding far from home base, he would probably be better off using a syn-petro compound or a straight petroleum-based oil. That way, in a pinch, he wouldn't have to worry about the effects of pouring straight petrolube into his bike when syn-petro isn't available. The owner of a brand-new superbike who never gets too far away from a well-stocked accessory shop could reap excellent benefits from the use of straight synthetic in his four-stroke. But his touring equivalent would doubtless be better to choose either a synthetic or a syn-petro blend that mixes readily with the various oils he might be forced into using during his nomadic wanderings.

One final consideration has to be price; at anywhere between $2.25 to maybe $6.00 per quart, your investment in any man-made oil will be far from casual. But to a growing number of enthusiasts who are sold on the alleged benefits of synthetic and syn-petro lubes, their performance far outweighs the expense. —*Mike Griffin.*



THE LEGENDARY MOTORCYCLES OF GERMANY.

BAVARIA: 1923.

Folklore has it that they gave Max Friz a stove to take the chill out of his office. And in return Friz gave them the design for a new kind of motorcycle engine.

"They," of course, were the owners of the Bavarian Motor Works in Munich, Germany. And Max Friz was their chief engineer.

The stove he received was thought to be, in the office politics of 1923 Germany, a major symbol of status. And the engine he created as a token of appreciation was to become the basis of all BMW motorcycle design.

The horizontally opposed twin.

Ingeniously simple. Perfectly balanced. Possessed of an extraordinarily low center of gravity.

PARIS: LATER THAT YEAR.

The first motorcycle to sport Friz's revolutionary engine was unveiled at the prestigious Paris Motor Show of 1923.

It was, not surprisingly, the rage of the exhibition.

Not solely because it cradled the opposed twin-cylinder engine however. For this machine bore another breakthrough by Friz that demanded an equal share of the limelight.

Running from its crankcase to its rear hub, you see, was the first fully refined drive shaft ever seen on a motorcycle.

This remarkably advanced bike was dubbed the R32. And in the words of the motorcycle historian L.J.K. Setright "it injected a measure of civilization into an activity that had always shown a tinge of barbarity."

AMERICA: 1982.

While the times have drastically changed, the opinion that aficionados have of the BMW motorcycle certainly has not.

Cycle Guide writes: "Overall it is perfectly tailored for your basic civilized, discriminating, blue-blooded rider who understands the difference between a one-dimensional motorcycle and one with character."

It has never been the mission of BMW engineers to build unguided missiles:

Motorcycles that thunder down the straightaways only to turn into millstones through curves. Or into jackhammers over bumps.

It is their goal instead to build complete machines.

Motorcycles that can sustain high speeds, not merely attain them. Whose ability to hold the road corresponds, to the closest possible degree, with their ability to whisk over it.

To this end, there is no engine configuration in existence that is more desirable than the horizontally opposed twin.

Still ingeniously simple. Perfectly balanced. Possessed of an extraordinarily low center of gravity. And the recipient of continuous refinement by generations of BMW engineers for the past 58 years.

The price of all this refinement? Predictably high, ranging from $3,600 to $7,300, excluding local shipping charges and state taxes.

But the evolution of the BMW has been so thoroughly impressive that according to the historian Setright:

"The modern BMW is not a motorcycle. It is an inheritance."

An inheritance bequeathed by Max Friz. An engineer who had a particular genius for designing motorcycles. And, of course, a tremendous appreciation of warm stoves.

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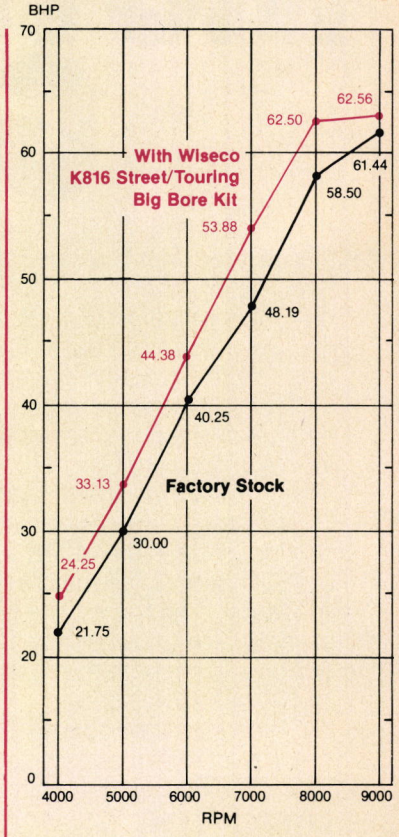
Dyno Tests Prove what Team Hammer Endurance Racers Know:

Using a Wiseco Big Bore Kit Improves Power, Throttle Response, and Reliability — Maintains and Even Increases Gas Mileage

Team Hammer
Rider Bruce Hammer stands out from the crowd—a successful achiever in the awesome test of man and machine that is Endurance Road Racing. Some of the Team Hammer's accomplishments are: 1st Place, AAMRR 6-HR., Loudon, NH; 1st Place, WERA 4-HR., Elkhard Lake, NH; 1st Place, WERA 4-HR., Bridge ampton, NY; 2nd Place, AFM 6-HR., Riverside, CA.

- 10% Increase in horsepower throughout the power range — gives better throttle response and torque for going up long inclines and for two-up riding.
- Better throttle response — because greater power and increased compression mean greater engine efficiency.
- Increased reliability — because Wiseco forged pistons are lighter and stronger than factory pistons, put less strain on reciprocating parts.
- Improved rings, with new design, last and last.
- Maintain and even increase gas mileage using pump gas — because more efficient burning of the gas charge increases hp at each rpm range, requiring less throttle and less fuel.



Test Bike: 1981 GS 750 Suzuki

Two separate tests were conducted by Wiseco engineers. The cycle was road tested and dyno tested both pure stock and with a Wiseco Street/Touring Big Bore Kit installed. All results are documented and a copy of the complete test is available upon request.

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GUIDE LINES

Cycle Guide's Monthly Chronicle of Scoops, Tips, Rumors and Hard Facts

BY DAVID DEWHURST

COMING SOON

• A brand new three-wheeled Husqvarna racer is proof that CYCLE GUIDE's rumors are rarely wrong. Last December's Rumors column told you that Husky was testing a CR-based **trike**, and now it's Coming Soon. In fact, the Husky Tri-Cross should be in local dealerships by the middle of the year. You'll be able to choose between a six-speed 250CR motor for serious racing, or a 420 Automatic for serious playing. Whichever motor you pick, it will be housed in an American-built chassis with a single Ohlins shock at the rear and a shortened **Husky** fork in front. The only other recognizable Husqvarna items will be handlebars, controls and the gas tank. Everything else will be designed and built in limited numbers at Husqvarna's U.S. headquarters in San Diego, California.

• Halfway around the world, amidst the spaghetti trees of Italy, **Moto Guzzi** has just launched its new V65SP. Transverse vee-twin cylinders displace 643cc and thump out a claimed 54 hp at 7050 rpm. The fully faired machine sports triple Brembo discs, the rear one mounted unconventionally just inboard of the rear wheel's shaft-drive housing. Equally unusual on a **street** motorcycle are inverted gas shocks. And if you're wondering what she'll do, testers at the Guzzi factory claim the 364-pound twin will top 115 mph.

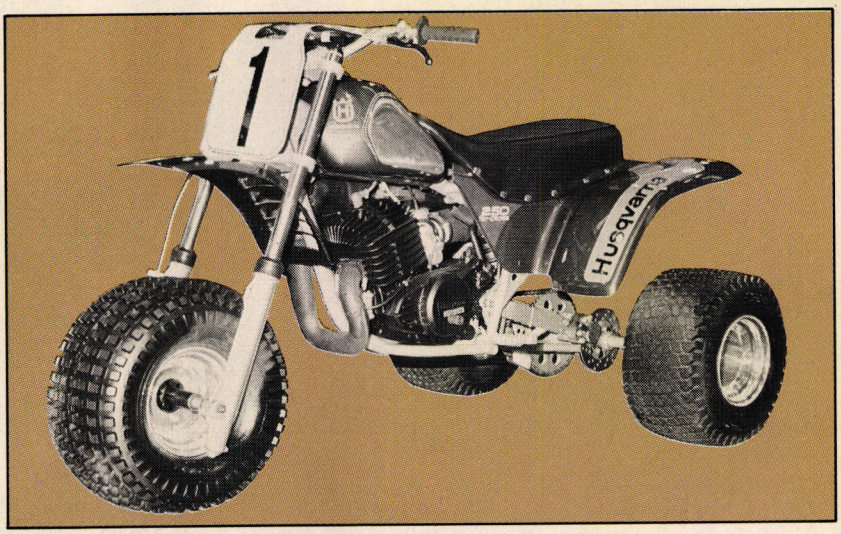
• A more suprising entry from Guzzi can't match the speed of the V65SP, but the **V50TS** might appeal to a wider audience. The Italian factory is hoping the 490cc vee-twin enduro will at least appeal to potential BMW R80 G/S owners looking for some four-stroke enduro fun. The **Guzzi enduro** has many of the BMW's features, including shaft drive, drum rear brake and a front disc. The bike is claimed to reach 95 mph and weigh only 350 pounds.

• Ducati's new **600TL** was one of the many motorcycles that was reshaped and restyled for the recent Milan Show in Italy. While its inline vee-twin brother, the 600SL, continues basically unchanged, the new TL model sports new Marzocchi suspension.

• A street bike of a very different kind is **Italjet's** Road Master 350. The former World-Trials-Championship-winning company has liquid-cooled its two-stroke motor and reversed the cylinder so that the DellOrto carb mounts ahead of the motor and the exhaust exits straight to the rear. The **experimental** six-speed bike is claimed to exceed 90 mph.

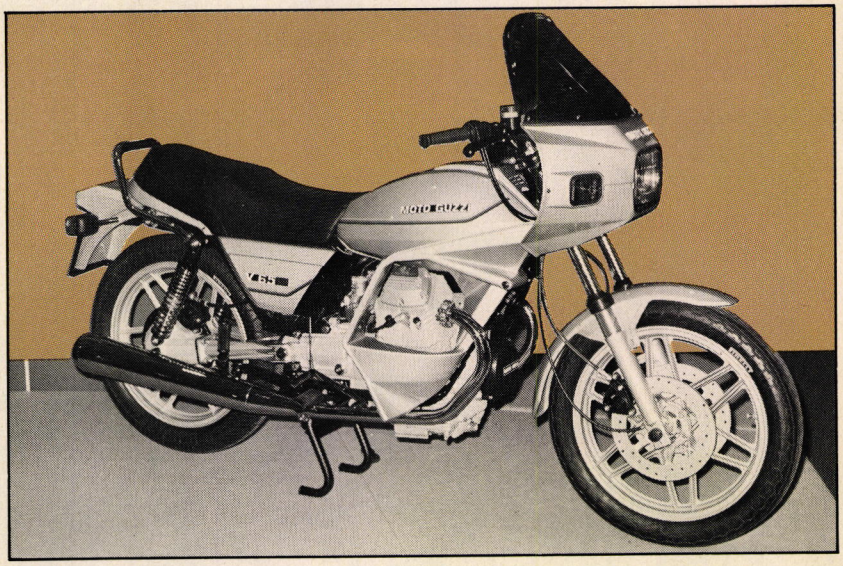
• The Alta Rossa 350 is the first four-stroke to roll from the **Cagiva** factory. An 82.5mm x 65.0mm cylinder pumps power through a five-speed gearbox. Single-shock suspension goes with dirt-racing tradition, but trials tires, passenger pegs and a disc brake suggest a more **street-oriented** role for the new Italian.

• Single-shock suspension is also a feature of a radical new offering from Moto Morini. The **Kangaroo** is a scaled-down version of the 500cc Camel enduro bike that the company launched last year. The 350cc Kangaroo houses its vee-twin motor in a double-down-tube frame with Marzocchi suspension at both ends. The Kangaroo is fully equipped for street use with lights and turnsignals and already has



Three fat tires for Husqvarna's soon-to-be-production trike

Swedish racing motor in an American-made chassis.



A full fairing for Moto Guzzi's new transverse 650 vee-twin

A familiar Guzzi motor design in a new size and new styling.

Continued

SPECTRE. MOVE UP OR MOVE OVER.

Now, from the other side of Midnight, comes a machine so dazzling, so bold, and so powerful that it could only be from Kawasaki. The brand-new 1982 Spectre. It is an experience that you will never forget.

You sit low in the plush stepped seat. In front of you ride the Spectre's precision electronic instruments, sweeping pullback bars and long, gold-accent, air-adjustable forks. Below, the clean, quiet shaft drive and air-adjustable shocks. Rich, golden, alloy wheels run fore and aft.

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The new 1982 Kawasaki Spectre. Suddenly, the boulevard is yours.

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Specifications subject to change without notice. Availability may be limited. Mirrors included as standard equipment. Kawasaki believes in riding safely. Check local laws before you ride. Member, AMA and MSF.

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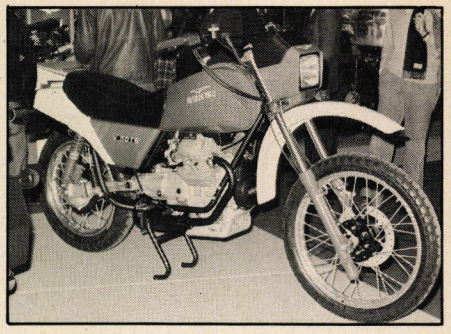
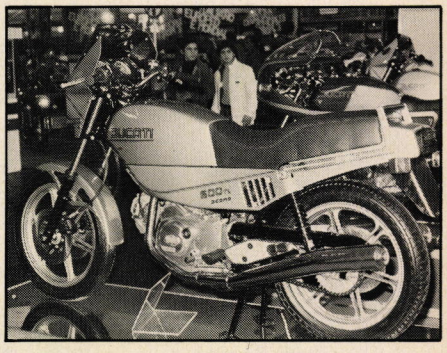


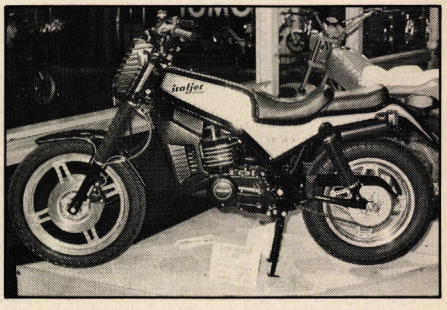
Vee-twin Moto Guzzi enduro

A 500cc thumper for street or dirt.



New styling for the Ducati 600TL

Signs that the Duke is not dead.



Liquid-cooled Italjet street bike

An experimental ride on the road.

seen serious dirt service in this year's Paris-to-Dakar rally.

• Better known for its **BSA-based** motocross thumpers, CCM has amalgamated with Britain's giant Armstrong Engineering Company and is now building a range of two-stroke motocrossers. Powered by 410cc or 250cc Rotax engines, the **Armstrong** has a Marzocchi fork and a single Ohlins shock controlling a Quad Link rear suspension with a claimed 12.6 inches of wheel travel.

• An even more radical offering from Britain is the Open-class **Wilcomoto**. Every piece of the bike, except the rims and DellOrto carb, is made by the Wilcox family concern. The 498cc motor breathes through a 16-petal reed valve, and will eventually sport a **power valve** in the cylindrical hole in the front of the barrel. A magnesium fork is made by Wilcomoto, as is the single shock, which produces a rising-rate geometry without the use of a linkage system. The bike will be seen at all the World Championship rounds including the Carlsbad G.P., but there are no plans for its sale in America.

Continued

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Header Kote costs a little more than ordinary hi-temp paint, but no other finish can match it for looks, durability, and rust prevention. It's truly "The Ultimate Exhaust System Coating." **Kal-Gard—The Ultimate in Motorcycle Lubricants and Coatings."**

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Type I audio system with AM/FM stereo and voice-activated intercom is also available.

Type I instrument panel includes voltmeter, altimeter, air temperature gauge and quartz clock.

Type II modular audio system features an instrument panel with LED digital readouts, an AM/FM stereo tuner, voice-activated intercom system, 40-channel CB with passenger "talk" switch, auto reverse cassette deck or any combination thereof.

20/20 hindsight with easily installed optional wide angle mirrors. Fairing mount helps dampen vibration for blur-free view.

Reach new heights with a choice of height-adjustable, shatterproof, polycarbonate, scratch-resistant windscreens.

Easy-to-reach handlebar-mounted controls for the Type II audio system.

Weatherproof speakers.

No welding, bending or cutting when you mount a Hondaline® touring fairing. Tough injection-molded ABS plastic. Color-matched and styled to complement your bike.

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Built-in adjustable air vents.

Protect your investment with Hondaline's chrome-plated steel engine guards. They integrate neatly with our fairing lowers.

Our lowers take over where our fairing leaves off. With the same construction and finish as our touring fairing.

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GS-850 G

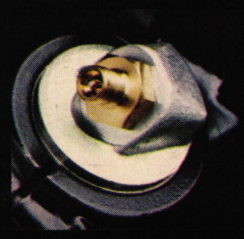
Feast your eyes on the 1982 GS-850G. It's an all-around tourer with a reputation for reliability and a brand new style for '82.

A big, dependable 4-cylinder DOHC engine with Suzuki shaft drive makes it smooth and quick. Front air forks, fully adjustable rear shocks and slotted disc brakes offer incredible handling.

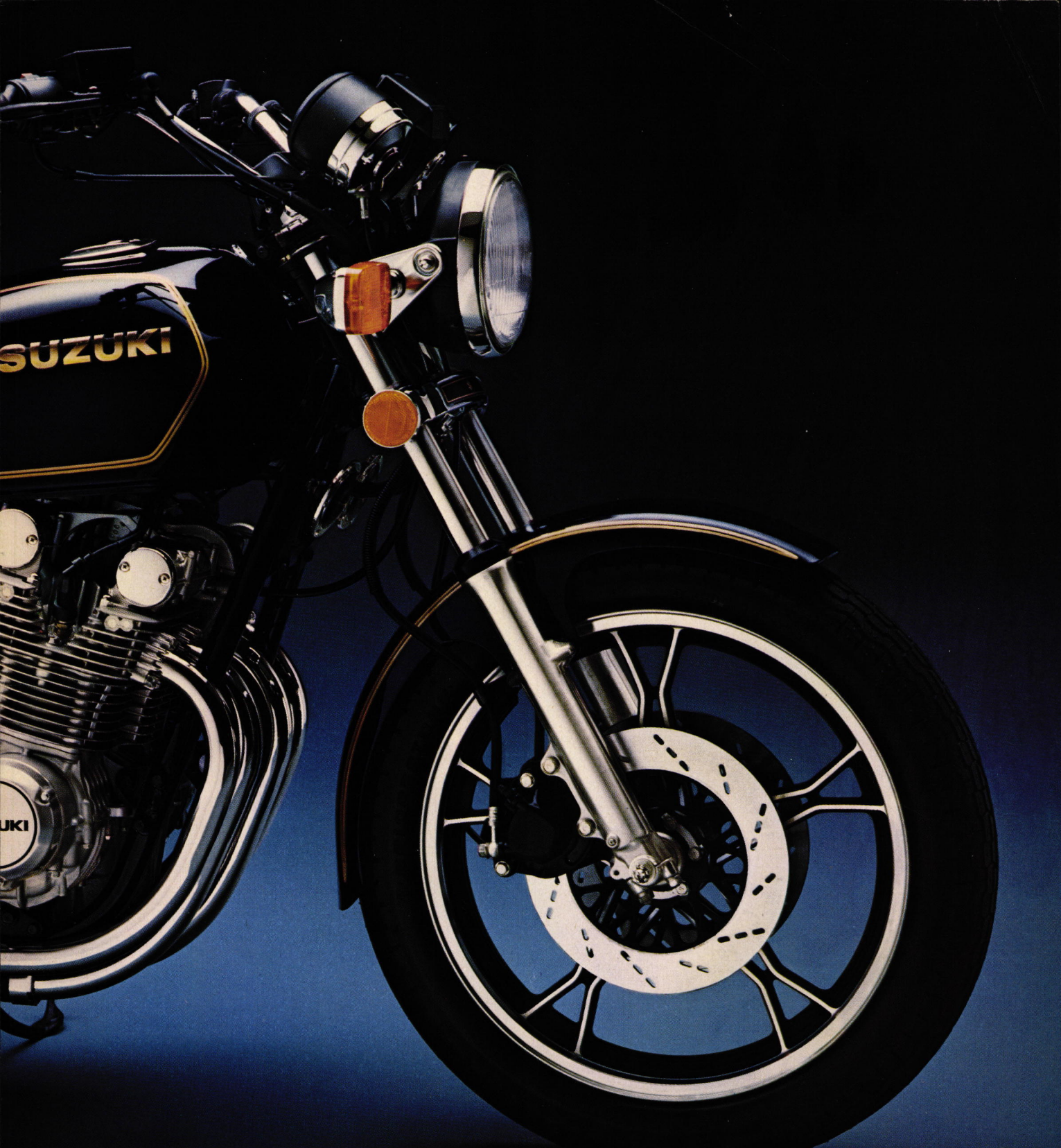
A new contoured fuel tank, seat and side covers, combined with new mag wheels, add up to pure style.

Across town or across the country, the 1982 GS-850G is the way to go.

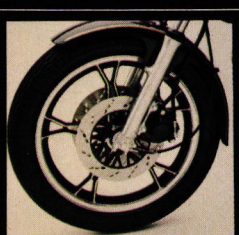
Front air forks: Provide better handling and smoothness under any road and load conditions.



Suzuki shaft drive: This smooth and reliable system is the most lash-free shaft drive available.



New-style mag wheels: Great looks and low maintenance, along with tubeless tires.



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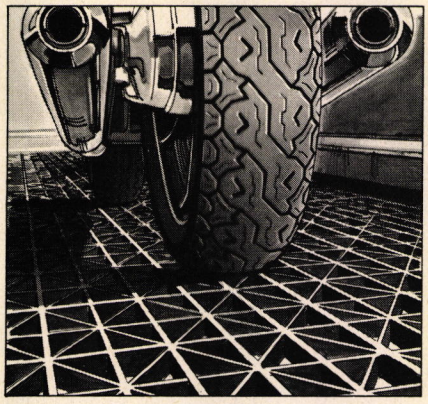
One look at the unique tread pattern of the Touring Elite rear shows you why. The continuous transverse-groove design, which forms diagonal tread blocks, solves some of touring's biggest problems — rain-groove "wiggle", and steel bridge "shakes".



When rain soaks the road, you ride on with confidence because the water shedding sipes and aquajets combine with the transverse tread grooves to channel water away from the contact patch . . . putting more tread on the road.

And, whether you're riding by yourself or two-up, the Touring Elite rear features two fiberglass belts to carry the load . . . mile after mile, from sunrise to sunset.

The Touring Elite front is the ideal match to the rear. Designed with stabilizing offset center groove pattern, aquajets and sipes, aggressive shoulder blocks, the Touring Elite front delivers superb steering control, smoothes out rain grooves, provides excellent wet traction and smooth cornering.

The Touring Elite front and rear, designed like no other to conquer the open road . . . rain or shine.

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Revolutionary tread design (Patents Pending*) with its continuous transverse groove holds the road and steadies the load in sunshine and in rain . . . on smooth or rain-grooved highways.

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Low, wide profile puts more rubber on the road.

Tube/Tubeless.

Offset center groove pattern for precise steering, controlled braking even in rain grooves.

Tube/tubeless.

Aquajets and sipes shed water.

Aggressive shoulder blocks for stable cornering.

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Front

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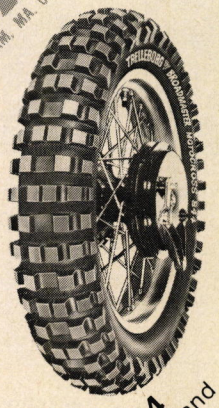

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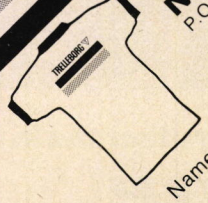

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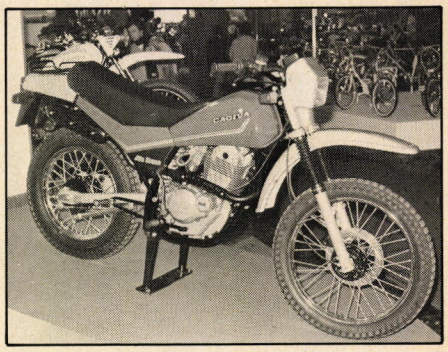
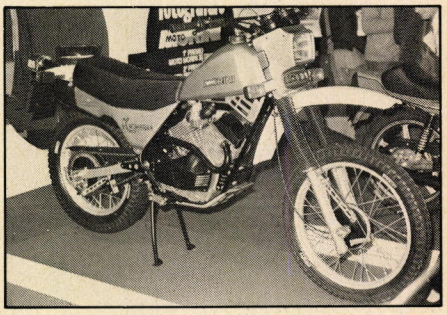


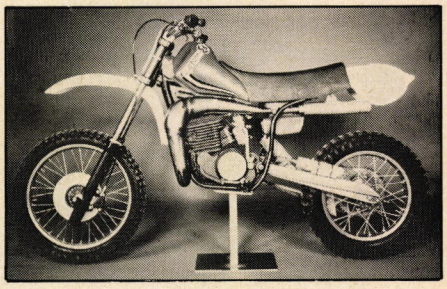
Single-shocked Cagiva thumper

Dirt looks with street function.



Morini's vee-twin Kangaroo

Hopping up the enduro market.



The Open-class Wilcomoto

Wilcox family's radical racer

• You also might find it difficult to buy a brand-new Open-class motocrosser from the Italian **Villa** factory. The bright-orange bike displaces 488cc and is the largest in a long line of big-bore 'crossers from the brother of former World Roadrace champion Walter Villa. The bike uses the latest Marzocchi fork, and keeps up with current motocross practice with the use of a **single-shock** rear suspension.

• Following a successful year in the World Motocross Championships, **Gilera** has announced the 125 C1 Competizione. The Dell-Orto-carbed motor has six transfers and one exhaust port inside its liquid-cooled Nikasil-coated barrel. **Rotary-valve** induction is claimed to help the stylish screamer pump out 31 horsepower at 10,500 rpm.

• If you haven't yet mastered the skills required to safely pilot a racer or a street motorcycle, you might want to get hold of a new safety **film** from the University of Northern Illinois (NIU). Neil Tolhurst, Safety Project Director for NIU, says that "(street) motorcyclists need to practice just like the competition riders practice and study to maintain their skills." Based on the off-road and street experi-

Continued

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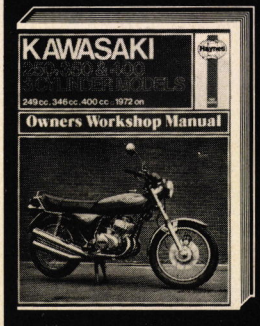

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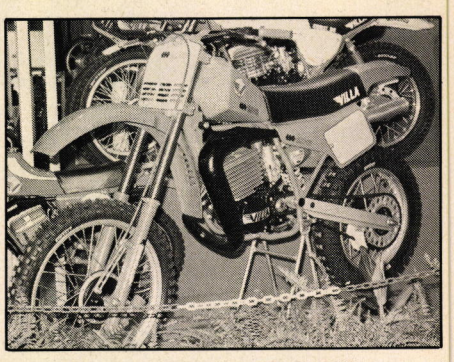


A single-shock 490 from Moto Villa

Italian bass for the Open class.

Stylish lines of the Gilera 'crosser

Rotary-valved waterpumper.

ence on the NIU staff, **"Ride Safe"** describes various riding techniques designed to keep riders out of danger. Narrator Dave Despain helps to explain basic motorcycle maneuvers like countersteering, combination braking, crossing obstacles and counterweighting. The film is available in **video** or 16mm film formats from Media Distribution, Division of Communication Services, Northern Illinois University, DeKalb, Illinois 60115.

• After viewing "Ride Safe" you might feel competent enough to enter the motorcycling **Olympics**. You won't be representing your country, but if you enter the York Wings Roadbike Olympics in Barrie, Ontario, Canada, the organizers promise three days of fun. If you want to know more about testing your **skills**, write to Thelma Graydon, 10 Beech Street #10, Brampton, Ontario L6V 1V1, Canada.

• Owners of **Suzuki's** latest Katana-styled GS1000 who feel restricted by the DOT-mandated 85-mph speedometer can get instant relief from Moonlite Ltd., 10 Meyer Court, Hermosa Beach, California 90254. Just send the instrument cluster down to Hermosa Beach and you'll receive a recalibrated **speedo** that will easily outrun even the fastest Suzuki.

–David Dewhurst

FEDERAL CASES

• Colorado riders won't have to have their bikes annually inspected for the next few years. When HB1227 was passed there recently, it suspended the vehicle safety **inspection** program there until July of 1984. And when the program is fired up again, motorcycles will be specifically excluded from a new Colorado vehicle emissions inspection program.

Continued

Introducing the Yamaha Maxims.

If you think it looks good at a red light, wait'll the light turns green.

Funny thing. But the part of our new Maxim 750 people will remember most may not be the sleek teardrop gas tank or the cast alloy, 6-way adjustable handlebars. The Computer Monitor System or the chrome megaphone pipes. Not even those racy spiral wheels.

The part they'll remember most is the part they'll see the most. The taillight.

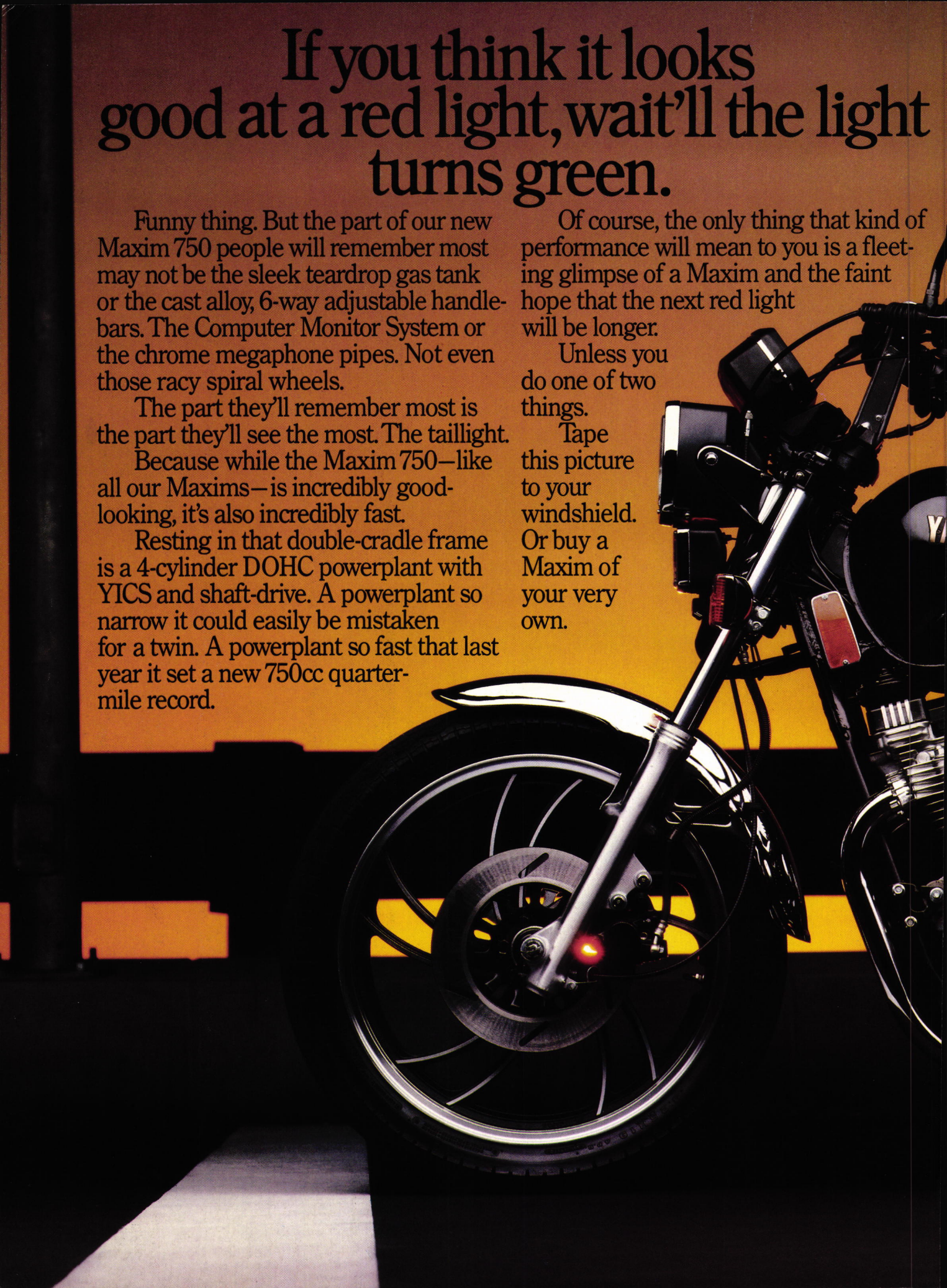
Because while the Maxim 750—like all our Maxims—is incredibly good-looking, it's also incredibly fast.

Resting in that double-cradle frame is a 4-cylinder DOHC powerplant with YICS and shaft-drive. A powerplant so narrow it could easily be mistaken for a twin. A powerplant so fast that last year it set a new 750cc quarter-mile record.

Of course, the only thing that kind of performance will mean to you is a fleeting glimpse of a Maxim and the faint hope that the next red light will be longer.

Unless you do one of two things.

Tape this picture to your windshield. Or buy a Maxim of your very own.



The Maxim Series.

Introducing the maximum Maxim. And the minimum Maxim.

With the addition of the new 1100 and 400 models you see here, the Maxims now come in a bigger choice of sizes.

Small. Medium. Large.

And huge.

The Eleven is our most powerful proof that a Maxim, even at its biggest, is still remarkably lean, low and lightweight.

Its awesome 1101cc engine not only looks lean and measures lean. It even runs lean. Our patented Yamaha Induction Control System (YICS) makes for more complete burning, more power per stroke and more miles per gallon. All without adding a single moving part.

The frame configuration is specially designed to give the Eleven all the support it needs, without all the bulk it doesn't need. So you get both a comfortably low seat height and low center of gravity without sacrificing ground clearance. Not to mention hairpin-hugging banking angles some smaller cc bikes can't match.

To transfer all that brute horsepower to the pavement most efficiently, there's a fully enclosed, direct-coupling shaft drive. And to bring it all to a smooth, steady halt, our innovative unified braking system

adjustable, cast alloy handlebars; air-adjustable front forks and rear shocks; and a big, sleek tank, and you've got yourself the biggest Maxim money can buy.

Which brings us to the smallest Maxim money can buy.

The 400. Proof that size has nothing to do with how much of a Maxim you get.

It's perfectly proportioned so it looks for all the world like the other mid-size Maxims: classic, aggressive, distinctive. And it's been carefully engineered to weigh less, cost less and consume less, all without being any less of a Maxim.

Measuring mere millimeters wider than a single, its brand new DOHC, twin cylinder engine delivers the highest horse-power output of any twin in its class.

A counter-rotating balancer makes it almost as smooth as a four.

And while YICS evens out irregularities in the air/fuel mixture, our Monoshock suspension system evens out irregularities in the road.

All of which gives the new 400 all the speed, handling, and good looks that make a Maxim a Maxim.

And along with our 550, 650, 750 and 1100 models, it makes choosing a Maxim five times easier.

Or five times harder.

automatically activates both the front and rear brake at the touch of the foot pedal.

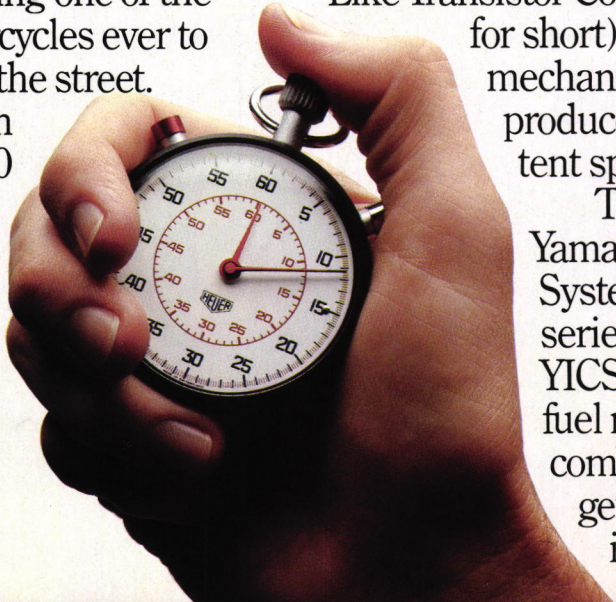
Add to that a Computer Monitor System with an LCD readout that reports vital engine functions and fluid levels; 6-way

Two ways to sho

The first time you take your Maxim 550 or 650 for a spin around the block, you may get the feeling the traffic lights have been moved a little closer together.

But then, you are riding one of the fastest production motorcycles ever to chase a white line down the street.

Both our chain-driven 550 and shaft-driven 650 have made such short work of the quarter-mile, race officials still suspect there's an extra hundred cc's stashed somewhere between the tank and tailpipes.



And they're not far from wrong.

Because on the other side of that crankcase cover you'll find little extras that make a huge difference in overall performance. Like Transistor Controlled Ignition (TCI, for short). Instead of using mechanical breaker points, it produces a hotter, more consistent spark electronically.

Then there's our exclusive Yamaha Induction Control System (YICS). Using a series of sub-intake ports, YICS literally blasts the air/fuel mixture around the combustion chamber. So you get more complete burning, and enough added

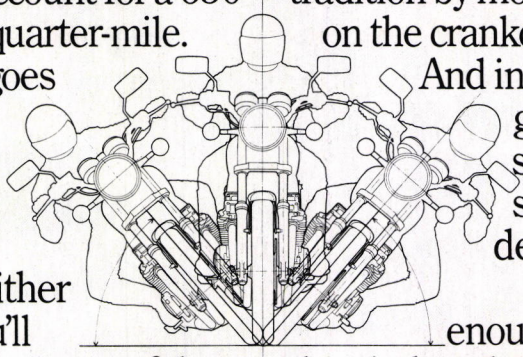
ten a city block.

horsepower per stroke to account for a 650 that can turn a 12.6 second quarter-mile. Not to mention a 550 that goes like most 650's. Or 750's, for that matter.

Of course, a twist of the throttle isn't all these Maxims respond to. Take either of them into a turn, and you'll begin to appreciate another aspect of their extraordinary performance: the kind of handling that makes straightening a curve in the road as effortless as shortening it.

Handling that results from the lowest possible center of gravity. And narrowness that results from our anything-but-narrow-minded approach to engine design.

On the 650, for example, we broke tradition by mounting the AC generator on the crankcase behind the cylinders. And incorporating the middle gear case into the transmission housing. So all that stands between you and a 47 degree banking angle, is nerve.



And as if that weren't enough to improve your circulation, there's that sleek, integrated styling. And all the long, envious looks that go with it. Because on a Maxim, one of the first things you'll notice is that you get noticed like you've never been noticed before.

The 1982 Maxim 550 and Maxim 650.
Be the first on your block to own one.

Maxim 1100

ENGINE		CHASSIS		Brakes	
Type	4-Stroke, DOHC, Four	Overall Length	88.6″(2,250mm)	Front	Dual Slotted Discs
Displacement	1,101cc	Overall Width	34.3″(870mm)	Rear	Single Slotted Disc
Bore and Stroke	71.5x68.6mm	Overall Height	47.0″(1,195mm)	Tires	
Compression Ratio	9.0:1	Wheelbase	60.8″(1,545mm)	Front	3.50H-19
Maximum Torque	65.1ft-lbs (9.0kg-m) @ 6,500rpm	Ground Clearance	6.1″(155mm)	Rear	130/90-16 67H
		Seat Height	30.1″(765mm)	Coloring	New Yamaha Black
Carburetion	Four Mikuni BS34	Dry Weight	566lbs(257kg)		New Ruby Red
Ignition	Transistor Controlled	Fuel Tank Capacity	5.0gals(19*l*)		
Starting	Electric	Suspension			
Lubrication	Wet Sump	Front	Telescopic Fork with Equalized Air and Adjustable Damping		
Oil Capacity	4.2qts(4.0*l*)				
Transmission	5-Speed	Rear	Equalized Air with Adjustable Damping		

Maxim 750

ENGINE		Oil Capacity	3.7qts(3.5*l*)	Brakes	
Type	4-Stroke, DOHC, Four	Transmission	5-Speed	Front	Dual Slotted Discs
Displacement	748cc	CHASSIS		Rear	Drum
Bore and Stroke	65x56.4mm	Overall Length	84.4″(2,145mm)	Tires	
Compression Ratio	9.2:1	Overall Width	32.7″(830mm)	Front	3.25H-19
Maximum Torque	45.6ft-lbs (6.3kg-m) @ 7,500rpm	Overall Height	46.3″(1,175mm)	Rear	130/90-16 67H
		Wheelbase	56.9″(1,445mm)	Coloring	Super Red
Carburetion	Four Hitachi HSC 32	Ground Clearance	5.3″(135mm)		New Yamaha Black
		Seat Height	30.7″(780mm)		
Ignition	Transistor Controlled	Dry Weight	485lbs(220kg)		
Starting	Electric	Fuel Tank Capacity	4.5gals(17*l*)		
Lubrication	Wet Sump	Suspension			
		Front	Telescopic Fork with Equalized Air		
		Rear	Adjustable Damping		

Maxim 650

ENGINE		CHASSIS		Brakes	
Type	4-Stroke, DOHC, Four	Overall Length	85.2″(2,165mm)	Front	Single Disc
Displacement	653cc	Overall Width	33.7″(855mm)	Rear	Drum
Bore and Stroke	63.0x52.4mm	Overall Height	46.1″(1,170mm)	Tires	
Compression Ratio	9.2:1	Wheelbase	56.9″(1,445mm)	Front	3.25H-19
Maximum Torque	38.3ft-lbs (5.3kg-m) @ 7,500rpm	Ground Clearance	5.7″(145mm)	Rear	130/90-16 67H
		Seat Height	30.3″(770mm)	Coloring	Black Blue
Carburetion	Four Hitachi HSC 32	Dry Weight	447lbs(203kg)		Star Red
		Fuel Tank Capacity	3.4gals (13.0*l*)		
Ignition	Transistor Controlled				
Starting	Electric	Suspension			
Lubrication	Wet Sump	Front	Air-Adjustable Telescopic Fork		
Oil Capacity	3.7qts(3.5*l*)				
Transmission	5-Speed	Rear	Swingarm		

Maxim 550

ENGINE		Transmission	6-Speed	Brakes	
Type	4-Stroke, DOHC, Four	CHASSIS		Front	Single Disc
Displacement	528cc	Overall Length	84.4″(2,145mm)	Rear	Drum
Bore and Stroke	57.0x51.8mm	Overall Width	34.1″(865mm)	Tires	
Compression Ratio	9.5:1	Overall Height	45.9″(1,165mm)	Front	3.25H-19
Maximum Torque	31.8ft-lbs (4.4kg-m) @ 7,500rpm	Wheelbase	55.9″(1,420mm)	Rear	130/90-16 67H
		Ground Clearance	6.3″(160mm)	Coloring	Star Silver
Carburetion	Four Mikuni BS28	Seat Height	29.9″(760mm)		Black Blue
Ignition	Transistor Controlled	Dry Weight	407lbs(185kg)		
Starting	Electric	Fuel Tank Capacity	3.4gals (13.0*l*)		
Lubrication	Wet Sump				
Oil Capacity	3.1qts(2.9*l*)	Suspension			
		Front	Telescopic Fork		
		Rear	Swingarm		

Maxim 400

ENGINE		Oil Capacity	3.0qt(2.8*l*)	Brakes	
Type	4-Stroke, DOHC, Twin	Transmission	5-Speed	Front	Single Disc
Displacement	399cc	CHASSIS		Rear	Drum
Bore and Stroke	69.0x53.4mm	Overall Length	82.7″(2,100mm)	Tires	
Compression Ratio	9.5:1	Overall Width	34.1″(865mm)	Front	3.00-19
Maximum Torque	23.1ft-lb (3.19kg-m) @ 8,000rpm	Overall Height	45.7″(1,160mm)	Rear	130/90-16
		Seat Height	30.3″(770mm)	Coloring	New Yamaha Black
Carburetion	Mikuni BS34	Wheelbase	53.9″(1,370mm)		Burgundy Red
Ignition	Transistor Controlled	Dry Weight	372lb(169kg)		
Starting	Electric	Fuel Tank Capacity	3.96gals (15*l*)		
Lubrication	Wet Sump				
		Suspension			
		Front	Telescopic Fork		
		Rear	Monoshock		

YAMAHA

THE WAY IT SHOULD BE.™

Specifications are subject to change without notice. Always wear a helmet and eye protection. Rear view mirrors standard equipment.

• A related law in Florida, HB101, goes a bit further. It repeals that state's motor vehicle **safety** inspection program. That doesn't necessarily mean, however, that Florida bikers won't have to get their bikes inspected, as HB101 also allows individual Florida counties to establish their own inspection programs.

• Dirt riders in Alabama won't be riding much along the Gulf Coast, thanks to Alabama HB585. The bill, when it passed into law, **closed** the public **beaches** and sand dunes there to all ORVs.

• But **Illinois** HB998 offers a little better deal for bikers. It excludes organized amateur or professional **motor sports** there from the need to comply with Illinois noise-emission limits.

• And mopeds are getting some new attention in Maine. HB121 there sets up a new category of motor vehicle license, valid for **mopeds** only, and directs the establishment of a moped license examination.

• A lot more used tires probably will be finding their way onto trash heaps in Maryland with the passage of HB52. The law prohibits the sale of **unsafe tires** for highway use. Under HB52, a motorcycle tire is determined to be unsafe if it is worn down to any tread-wear indicator or if the tread depth is below 1/32-inch.

• Another Maryland law, SB527, mandates that **used motorcycles** there must be inspected upon sale, except when the bike is being transferred to a motorcycle dealer.

• And yet one more bit of Maryland legislation defines a motorcycle—at least for the purposes of that state's vehicle code. Prior to the passage of HB1830, a motorcycle in Maryland was defined as having a minimum displacement of 74cc. The **limit** has been lowered to 50cc.

• In New York, touring riders and other behind-fairing types will benefit from the passage of SB1883, which deletes the requirement in that state's vehicle code that motorcycle mirrors be attached directly to the bike's handlebars. Motorcycle mirrors there may now be attached to **fairings**. *—Larry Works*

HARD CASH

• Last year won't go down as a record period for motorcycle sales, but for some of the 95 percent of **dealers** who were still in business at the year end, there was good news. Recent figures show that 20 percent of the country's dealers grossed in excess of **one million dollars** in sales of bikes and accessories. Twenty-five percent of the nation's franchised motorcycle dealers were not far behind, with gross earnings over one-half million dollars.

• If you're wondering what American motorcyclists spent all that money on, consider that new bike sales for 1981 are projected at **1.07 million** units, up from 1.06 million in 1980. Honda dealers took the lion's share of that sales total. The average Big-Red dealer managed to roll 340 **new motorcycles** off his showroom floor, while multi-line franchises came a distant second with an average of 240 buyers signing loan papers. Yamaha dealers came a close third with an average dealership moving 220 bikes onto the street—or dirt.

• Hesketh motorcycle dealers weren't so lucky. Not a single **British** vee-twin ever made it to the showroom floor because gearbox problems delayed production. The factory's year-end financial report shows a **loss** of $1.2 million, half of the firm's $2.4 million capital.

• AMA-Winston-Pro-Series racers will be in a better financial position in 1982 now that the **R.J. Reynolds** Tobacco Company has increased its sponsorship from last year's $125,000 to $150,000 for the 1982 season. The top 10 racers at the mid point in the 28-race series will share $35,000. The top five Formula One roadrace finishers will split $15,000 while the remaining **$100,000** will be divided among the series' top finishers.

—David Dewhurst

RUMORS

• Two-strokes, four-strokes, singles, twins, triples, vee-fours, inline-fours, flat-fours, liquid-cooling or air-cooling, whatever your interests, there are rumorbikes to suit your taste this month. If, for instance, you like two-strokes, you might smile at the thought of a Katana-styled **250 Suzuki** smoker. Hoping to cash in on a market currently dominated by Yamaha's RD250LC, Suzuki is apparently set to launch its new bike next year. There are no official plans to sell the bike **in America**, but that didn't stop hundreds of screaming RD250LCs from getting into the country, did it?

• You might also have to look abroad for a Full Floater **PE400** to complement the 175cc version on sale Stateside. The latest big-bore two-stroke has been spied in action on other shores, but U.S. Suzuki claims it won't be on sale here. But that doesn't rule out a big-bore **four-stroke enduro** some time soon. Four-valve 125cc and 250cc enduros are slated for launch about mid-year and a deep-woods DR500 derivative can't be far behind.

• Tales of other 500cc singles have been floating around the industry recently, too. If you can believe the rumblings, Kawasaki could just launch a **big-bore** enduro thumper in a Uni-Trak chassis. The motor apparently has sat in a dark corner for a few years and **Kawasaki** has only just taken it out and dusted off the cobwebs.

• Kawasaki's new dirt thumper might eventually go the same way as **Yamaha's** latest four-valve 550cc dirt single. The new XT's knobs had barely hit dirt when sharp eyes at a Japanese intersection saw a street-tired 550 single with low handlebars. Now we can't confirm talk of an electric starter, or that an **SR550** will be on sale in 1983—at least, not yet—but remember that CYCLE GUIDE told you the rumor first.

• Across the road at Suzuki the valve-grinding tools have been hard at work preparing for two new **four-valve heads.** If the crumpled order form we saw is correct, both the 450cc twin and the 550cc four will be available with four valves per cylinder. The inline four long has been linked with a 16-valve head, and with the bike wrapped in **Katana** styling, 1983 might be

Continued

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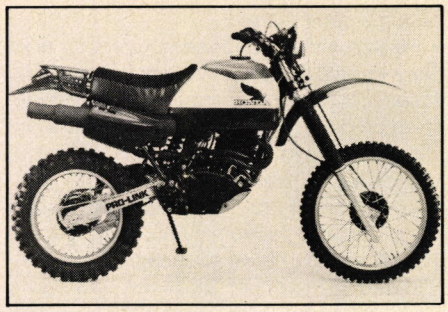
GOOD DEALS FROM THE BIG D.

the year that fact and rumor come together.

• While you're thinking about new goodies from Suzuki, why not throw a **550cc** vee-four into your dream equation. If you like liquid-cooling, add that, too. You even could **dream** about buying this bike in 1983. After all, it's only a dream, isn't it?

• If you've woken from your vee-twin dream and the **tandem** motor still keeps flashing before your eyes, don't be worried. It could just be that you're seeing reality in the prototype testing stage. A regular reader of Rumors swears he just saw a liquid-cooled **vee-twin** and it wasn't a Suzuki. He's sure this little shaft-driven bike was a Honda because it looked like it had a Pro-Link rear suspension. We tend to believe him because we have heard tales of a **VT250** street bike that's ready to be launched in Japan. We also heard talk of a 350cc version of the water-pumper, too. But for now that's all we know because American Honda is saying nothing about VTs of any size for the U.S. market.

• We also can't confirm a report that Honda will be selling a very limited number of replicas of the **XR500** that won the recent **Paris-to-Dakar** rally. Honda's Racing Service Center (RSC) is thought to be building the bikes, which featured nine-gallon gas tanks as well as oil coolers and modified suspension when they crossed the finish line in Africa. It's not sure where such a bike could be raced, but we've been told it will be.



Paris-to-Dakar rally winner

Will it be on sale in America?

• More concrete news comes from Italy, where Bimota recently has signed a contract with Kawasaki to buy 300 **GPz550** motors a year to build complete street racers. It seems that the motors will be prepared by Kawasaki's race department, and our Mafia contact says there is a contract out for a **liquid-cooled** conversion for the bike. But you know how the Mafia loves to keep things immersed in water.

• If your **street-racing** juices were pumped into action by the thought of a new Bimota, you will be in just the mood to believe tales of a 650cc sport version of Honda's vee-twin **CX500**. Not that anyone has seen this twin-lunged sportster in action, but there are so many stories about the project, it's hard to know what's fact and fiction. Why don't you decide?

• Over in Europe everyone is getting excited about the thought of a **street-legal** version of the liquid-cooled four-stroke triple roadracer built by ACS. The French firm has been hinting that a 750cc version of its **11,000-rpm**, 150-hp one-liter racer could blow the mufflers off any three-quarter-liter street bike around.

• If you're more into looking good rather than burning rubber, you'll be glad to hear the story that Yamaha's **Midnight Specials** could be back on sale in 1983. And the XS1100 Midnight Special might not be the largest bike in Yamaha's line. There's talk that Yamaha finally is going to fill its touring-bike void with a big-bore **vee-four**. Inquiries about the bike are met with nothing more than a knowing smile, but don't be surprised if a shaft-driven vee-four comes straight from Yamaha's factory with as much touring equipment as Honda's new Aspencade.

• Not content with just equaling Honda's efforts, Kawasaki's much-rumored **grand touring** rig is intended to offer every creature comfort known to touring man. With a new motor that might be either a horizontally opposed four or a vee-four, the green flagship is said to have completely **adjustable** ergonomics. Bars and footpegs will, if our source is accurate, be capable of being moved into numerous positions. And the seat is said not only to move fore and aft, but up and down as well. And would you believe Kawasaki has been working on a pneumatically operated

Continued

Turbo The "NEW BREED" of helmet from KRW

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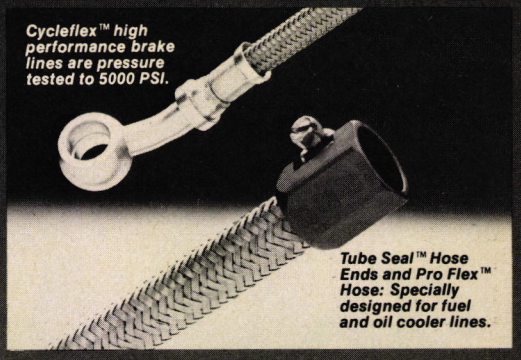

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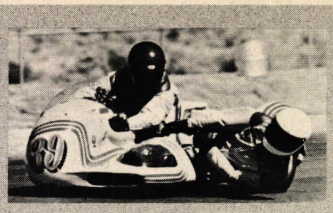

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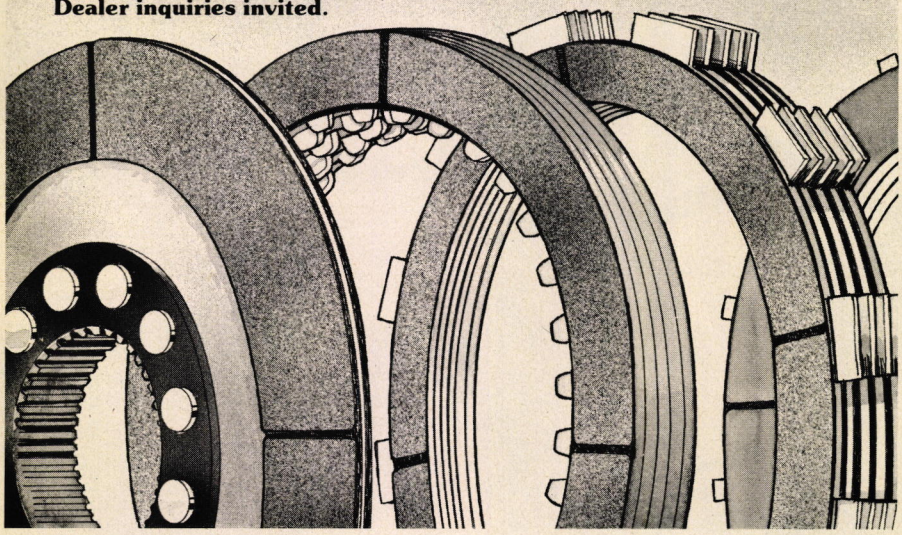

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centerstand to heave the green monster off its wheels?

• Everyone's heard stories about a new vee-four engine from **Harley-Davidson** that's supposed to have been designed by Porsche Design in Europe. Most people think that the new Harley management has shelved the project. But nothing could be further from the truth. In fact, sources confirm that engines ranging from 800cc to 1200cc are still being tested. They also say that Harley has experimented with chain, shaft and belt final drive, as well as tinkering with fuel injection and regular carburetors. What's even more exciting is that there might even be a motor as small as **500cc** lurking quietly in the wings. *–David Dewhurst*

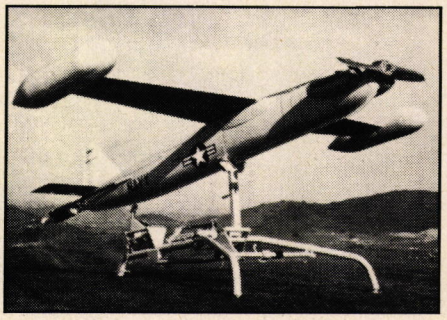
AFTER THE FACT

• Husqvarna now has a permanent solution to the problem of leaky fork seals that we encountered in our January '82 test of the 430CR. Any owner of a leaky 1982 Husky fork can contact his local Husky dealer for a free set of replacement Kayaba seals.

• There's even better news for anyone thinking of buying Yamaha's 920 Virago. The price of $3899 quoted in our February '82 test of the motorcycle was calculated by Yamaha using estimated production costs. When the bikes finally got bolted together Yamaha found that it had overestimated by $200, so it is passing that cut along to the customer, who will now pay $3699 for his 920 street cruiser. *–David Dewhurst*

APART FROM THE CROWD

• Some kind of recognition clearly is in order for the two riders who recently set a record at the Cote d'Or in France. They spelled each other at stints behind the itsy bitsy, teeny weeny bikini fairing of a Yamaha **pocket bike** for 24 hours straight.



Spy photo of 1983 Yamaha?

Or just another commuter drone?

• And news that **Yamaha** has accepted a contract to build prototype four-stroke engines for Northrop target **drones** has sparked a flurry of interest in new market strategies for the major motorcycle manufacturers. No word yet as to whether or not the target drones will be available in Yamaha dealerships. *–Larry Works* ●

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Front air forks, fully adjustable shocks and new instrumentation with fuel gauge are a few new features of the GS-650E.

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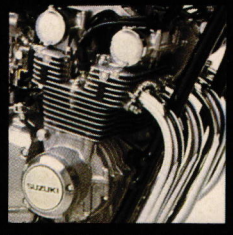
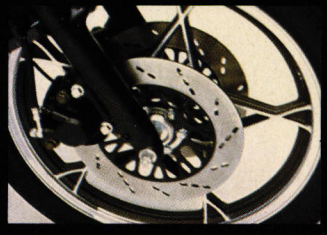


Refined front end: Front air forks and dual slotted front disc brakes are now standard.



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ROAD TEST:

Honda GL1100A Aspencade

Only the most complete turn-key tourer ever built.

BY LARRY WORKS

You know touring guys. The artists of the highways, not merely the practitioners. They live in a rarefied world of color-matched motorcycles, leathers and helmets. They collect roadmaps and gas receipts like other people collect matchbook covers—and they've long since learned to tell time by the clicks of an odometer.

The thing about tourers is that they're never satisfied. They're always looking for that perfect stretch of road. But even that isn't enough. Not only must the road be unflawed, the bike must be just right as well. And they spend untold time searching for the elements of both. But while there's still some argument about which stretch of highway takes the title—there always will be—the controversy over the best bike to cruise it has been settled. Honda simply closed the door on the competition.

What lies on the other side of that door is Honda's limited-edition Aspencade, the best of a breed designed with only one mission in mind: to ingest massive stretches of American highway, and to do it

PHOTOGRAPHY © 1982 CHRIS EASTMAN

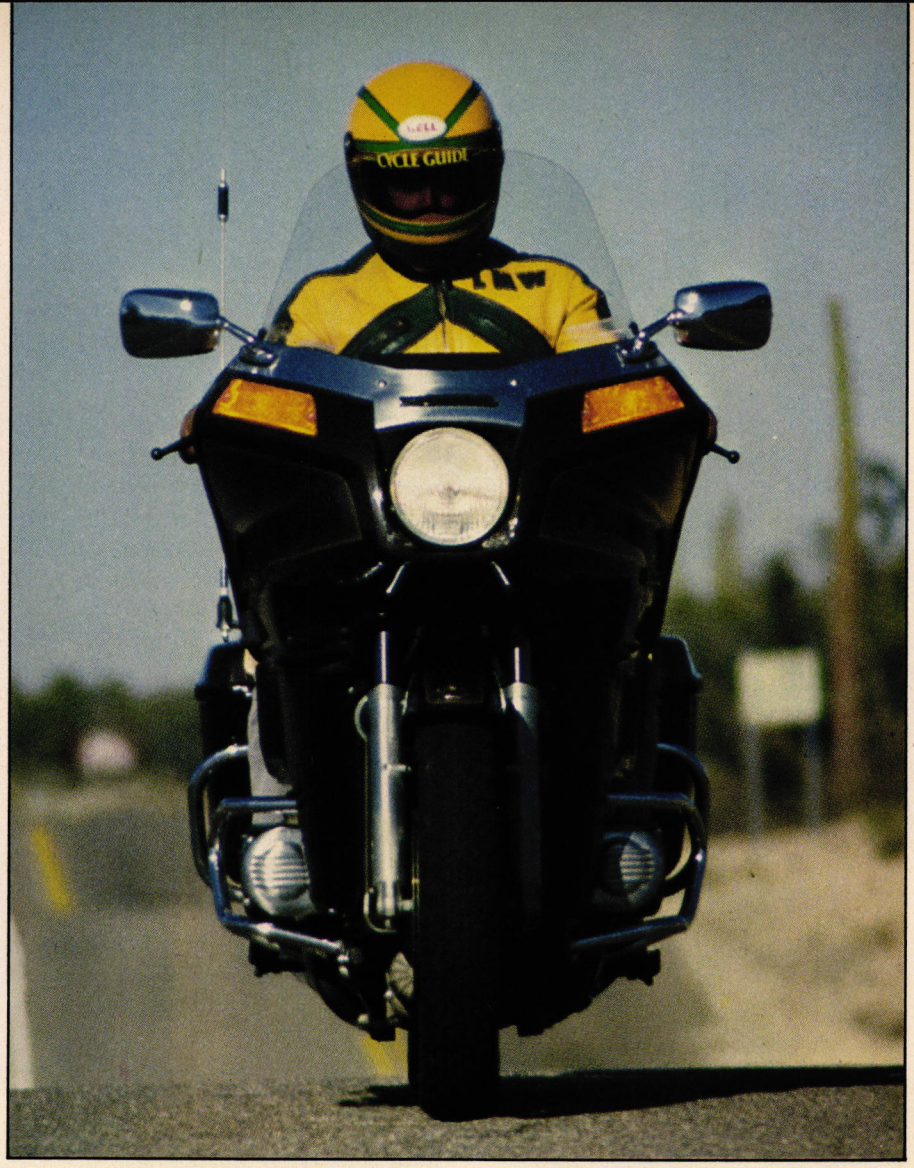
Continued

with nary a hiccup to show for the effort. The bog-standard Aspencade is ideally configured for the task; it rolls off of the showroom floor equipped for a run to the nearest horizon.

On the surface, this king of the turn-key tourers is simply a Gold Wing Interstate, well-dressed in a tasteful two-tone paint job—either Sorrel Brown Metallic or Sterling Silver Metallic. A known quantity, and a fact of American touring. And the Aspencade *is* closely based on the Interstate, though one thoughtfully updated from last year's model. Those improvements, across-the-board model changes to the Gold Wing line (now including the Aspencade, Interstate and the bare-naked Gold Wing), reflect not only the uprating of existing machines but also Honda's extensive market research into the wants and needs of Gold Wing owners.

For instance, to net higher fuel mileage and lower engine speeds—and thus, less engine noise—all 1982 Gold Wings received taller gearing. Third and fourth gears were given three-percent higher (lower numerical) gear ratios, while fifth gear was raised nine percent. Twin-piston brakes were added to all Gold Wings for '82 to better haul the rolling mass of bike and rider to a stop. Because Gold Wing owners wanted better tire wear and increased load capacity, the diameters of the Gold Wing's ComStar composite wheels were reduced one inch at each end (to 18 and 16 inches) and enormous raised-white-letter Dunlop tires were fitted. Despite the smaller wheels, the new Dunlops—both wider and with a taller carcass than last year's Gold Wing tires—retain roughly the same circumference as previous Wing rubber, as well as providing a 25-pound boost in GVWR and an estimated doubled tread life. The switch to larger tires made necessary other modifications, among them a wider front fender. A reshaped and strengthened swingarm also was needed to clear the fatter rear tire, and the ring and pinion gears in the Gold Wing's shaft final drive were beefed up at the same time—to compensate for increased tire mass, according to Honda.

But while changes in gearing, load capacity and tires are readily apparent to the sharp-eyed consumer, they are no less valuable to the touring rider than some of the less-conspicuous alterations made to the Gold Wing line. Among them is increased generator output at low rpm and a doubled wattage capacity of the GL's fused accessory terminal. And shifting is somewhat smoother on this year's Gold Wings, the result of the shift drum being supported by a ball bearing (as opposed to an aluminum bushing as used in the past). Also, all 1982



Shape of GL engine assists touring fairing to shield rider from wind blast

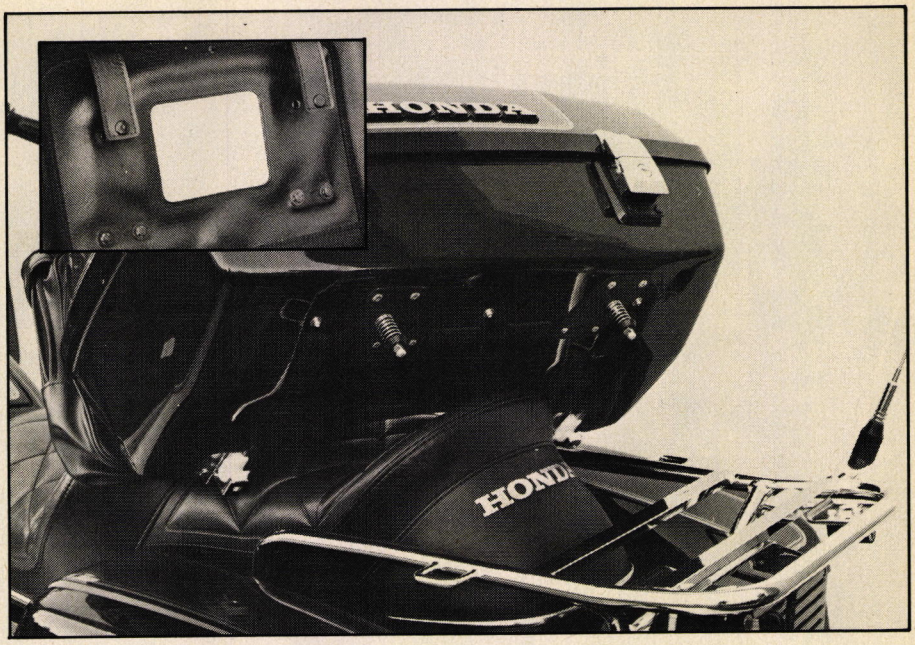
Anywhere the road leads you, without leaving the comfort of your living room.

Gold Wings—bare, Interstate or Aspencade—arrive with self-canceling turnsignals, which is a Honda first. The canceling system is actuated by a position sensor at the bottom of the steering head. When the sensor registers that the handlebar has been turned at least two degrees from center and then returned to—or past—centered position, the canceler activates, taking into account both time and distance traveled. The faster the GL's road speed, the greater the time the signal is left on.

You might have to leave the turnsignal on if you're stranded on the road with a flat rear tire, but at least the rest of the chore will be easier. To simplify rear tire removal, the '82 Gold Wing rear fenders are split and hinged (even the license plate bracket is hinged) to lift up and out of the way. Engine guards on this year's GLs are also out of the way after being shortened to keep from fouling riders' feet and shins. And in an unabashed touring comfort consideration, 16mm-longer, barrel-shaped grips were fitted to the Gold Wing's handlebar, while air-cushion rear footpegs went on to convince the passenger that he/she wasn't being ignored.

There the Interstate and civilian-model GL1100 stop, but the Aspencade rolls straight through, with a list of standard features apparently designed to give long-haulers a chronic case of the late-night sweats—and a compilation of sheer stuff that is quite literally unapproachable, either as standard features or options, on any other production motorcycle.

Foremost on the Aspencade's list is the AM/FM signal-seeking radio (for full information on the Aspencade's sound system, see story, page 60). This is no hunk of leftover automotive technology but a highly specialized sound system designed by Honda and built by Clarion to fit the Aspencade's ABS plastic full fairing—and the particular environment of touring riders as well. There is nothing like it offered through any other source. You couldn't say that about the Aspencade's ventilated disc brakes (which are similar to those on a CBX), but that air of exclusivity *does* apply to the GL1100A's onboard air compressor. With the bike up on its centerstand (a surprisingly easy maneuver for a 724-pound motorcycle) and the ignition turned to "Park," the compressor can be used to pump up the otherwise unchanged air-spring suspension at both ends of the bike with nothing more than the manipulation of a few buttons. A single gauge mounted in the center of the compressor's controls monitors both the fork and shock pressure, switching from one to the other by means of a rocker-type selector button on the left side of the pod. Once the desired air-pressure settings are reached, the system shouldn't be repeatedly checked, since the suspension units are linked through the holding tank in the compressor; thus toying with the controls will only equalize the pressures in the fork and shocks.



Ignition key unlocks saddlebags and topcase, releases topcase from luggage rack

While vanity mirror inside casts a nice reflection on turn-key tourers.

PHOTOGRAPHY © 1982 VIC HUBER

Double exposure illustrates 40mm of adjustment available in the Aspencade's seat

Having a fore-and-aft option goes a long way when you're going even farther.

The panel of switches for the compressor is complete with a warning not to run the pump for more than five continuous minutes, which seems excessive, since it takes only about 30 seconds to charge the suspension from 0 psi to the recommended pressures of 17-21 psi in the fork and 50-60 psi in the shock. But an explanation for the warning comes in the form of a Schrader valve built into the system, which can be used to inflate tires—although Honda doesn't recommend the pump's use for that purpose and the Aspencade doesn't come with a hose to fit the valve. Nonetheless, it will be common knowledge among Gold Wingers that with an additional hose it's possible to use the system to inflate tires as well as pump up suspension units. And should the pump fail, the system can be charged through the valve with an air pressure line—though doing so will bypass an air filter and dryer built into the compressor.

While the Aspencade's radio and air pump are touring licks obvious to any long-distance rider, the bike also includes somewhat subtler refinements over the Interstate. Indeed, the Aspencade fairly bristles with small details that will be noticed—and envied—by Gold Wing owners themselves. For those keyed for one-upsmanship, the Aspencade is an unparalleled delight. You can start with the small stuff, pointing out to Interstate riders that your Aspencade has a larger backrest. Or that the Interstate's saddle, no slouch in its own right, takes a clear back seat to the Aspencade's comfy two-tone sitter—the finest ever to come on a production tourer. Then casually point out that your mirrors have an anti-glare coating, while theirs don't. Make sure to extract something from the dual "possibles" bags mounted on the front of

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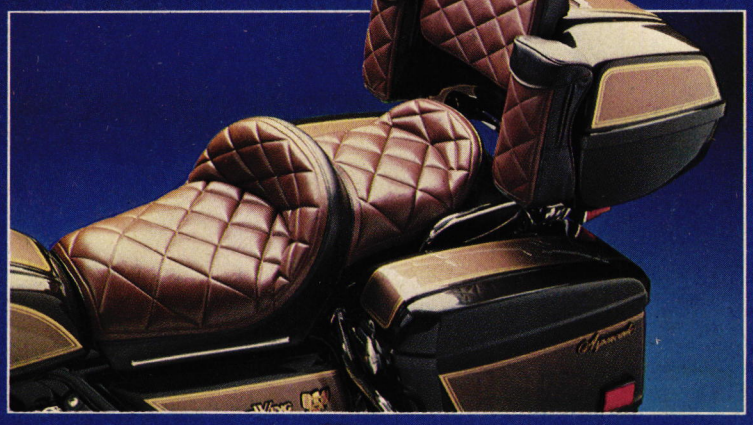
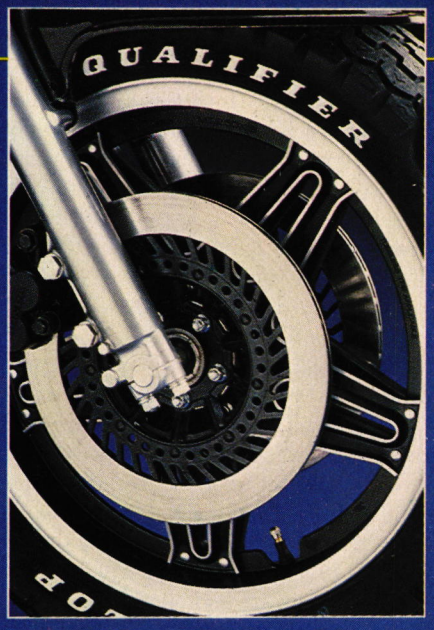
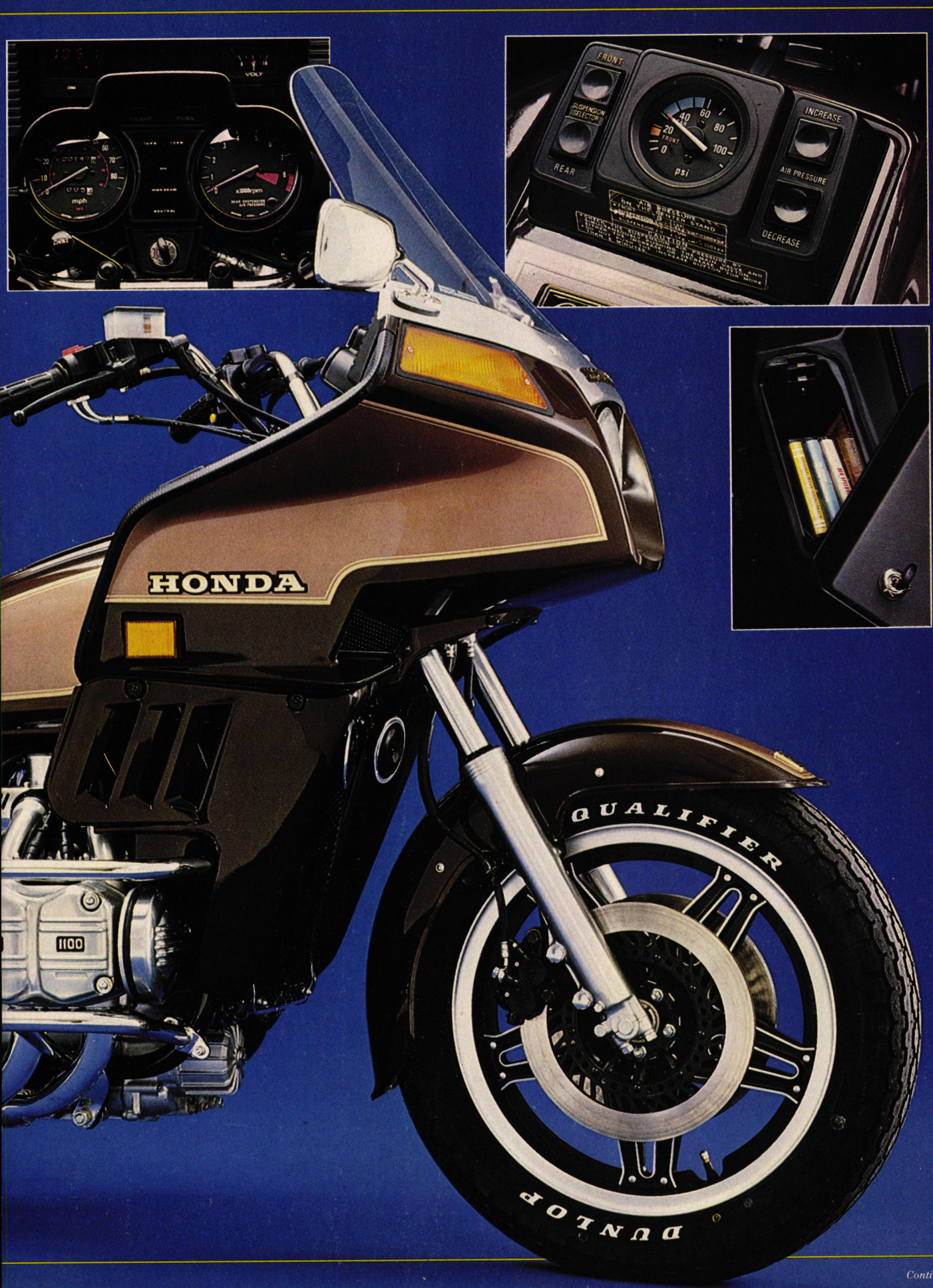




"Where the Interstate stops, the Aspencade rolls straight through, with a list of features apparently designed to give long-haulers a chronic case of the late-night sweats—and a compilation of sheer stuff that is quite literally unapproachable, either as standard features or options, on any other production motorcycle."


HONDA
1100
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psi
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Tuned For Comfort: Hitting A High In Hi Fi

• Much of what makes the Aspencade such a magnificent touring rig has little to do with two-wheel engineering. In fact, the designers who gave the Honda one aspect of its long-distance touring edge probably couldn't tell a con rod from a swingarm. But they knew enough about frequency response and wow and flutter to make the Aspencade into the world's most elaborate two-wheeled stereo system.

In fact, the GL's fairing can be crammed with enough Hi-Fi hardware to make even some home systems seem obsolete. In standard trim the Aspencade comes with a detachable auto-seeking digital radio in the left side of its fairing. Unlike the original Clarion-designed and -built radio used in the Interstate, which displayed frequencies on the radio's facia, the new Honda-designed Clarion radio has its digital frequency display mounted in the fairing just below the windshield where it can be seen with less eyes-off-road time.

What remains in the radio control panel are detented volume and tone controls and an AM/FM selector switch with sensitivity settings for local and distant stations. Four buttons can be preset to store eight station frequencies (four AM and four FM) while a press of the lower button in the center of the panel displays the time on the digital readout panel, even when the ignition is switched off.

Two buttons on the radio's face allow manual tuning up and down the frequency scale, but the best trick on the Honda is a selector switch mounted above the clutch lever pivot that makes the radio automatically search for the next station up the frequency scale. Without looking away from the road you can use your thumb to change stations and then check your selection on the digital readout. And if you want to interrupt the music flowing from the twin speakers, a mute switch sits beside the auto-seek control.

Unless you live in the eight states where helmet-mounted headsets are banned—California, Florida, Georgia, Illinois, Massachusetts, Minnesota, Pennsylvania or Washington—you can always buy Hondalines's headphone and speaker set. You'll need that plug-in accessory if you want to fully utilize the optional 40-channel CB or intercom that you or your dealer can install in the radio facia. The power amplifier and the signal splitter (which allows a single antenna to operate for both the CB and radio) are hidden inside the fairing, so the only change to the radio itself is the additional of five extra control knobs.

One of these controls, the detented intercom mute knob, can divert music or CB transmissions from the external speakers to the headsets. And if rider and passenger want to talk by intercom, the mute control can be set to automatically reduce the volume or completely interrupt the radio broadcasts whenever the voice-actuated microphones are used. A volume control also adjusts the sensitivity of the mikes so that they are not inadvertently switched on by high-speed wind noise.

CB channel selection is handled by a second thumb-control unit stacked on top of the first above the clutch-lever pivot. The CB channel is displayed on a second digital readout to the right of the radio display. If the rider wants to transmit on that channel he pushes a switch in the control box, while the passenger has an independent transmit button on the rear grab rail.

The CB and radio can be left on together, the radio playing until a strong CB signal temporarily cuts the radio signal. But if you choose to play the optional cassette deck, everything else must be switched off. You have to lift a rubber-backed metal flap before inserting or ejecting a cassette, and an additional storm flap seals the cassette entry in extreme weather conditions. Once inserted, the cassette can be controlled by locking the fast-forward and reverse knobs, and an auto-reverse feature allows the tape to play continuously until it's switched off.

Honda's complete audio system is not simple, and at more than $1500, it's not cheap, either. But when you've bought the world's best ready-built tourer it seems only fitting to equip it with an equally brilliant audio system. *—David Dewhurst*

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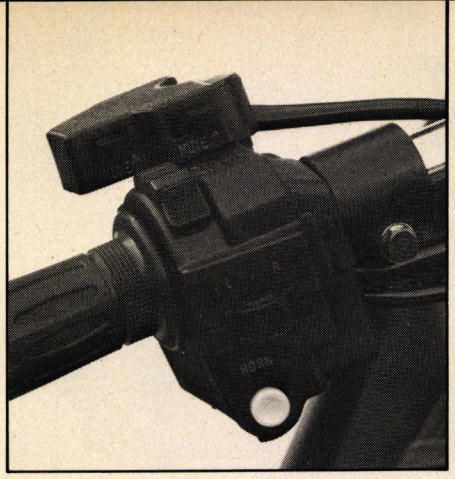
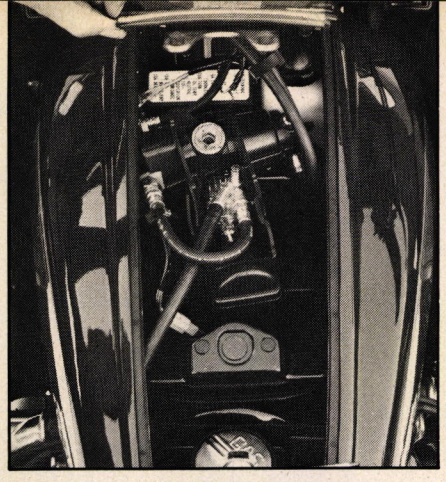
The ultimate motomusic machine: AM/FM, CB, cassettes—or just plain conversation

Decisions, decisions.



Grip-mounted pod governs tuner functions

More music, less eyes-off-road time.



"Tank" conceals onboard air compressor

Adjustment at the touch of a button.

the topcase, just to show that your bike will carry more than theirs without resorting to bungee cords, even if only marginally so. While you're at it, let them notice that the saddlebag liners on your bike are a heavier nylon than the ones on their rigs. Then set them up for the fall. Show off the status toolkit on the Aspencade, the chrome-plated tools (including a ratchet and a socket set) in a heavy, velour-lined case, and slip in the *coup de grace*, the vanity mirror in the Aspencade's topcase. Honda rightly figured that this elaborate show-and-tell is part of club touring and armed the Aspencade for bear.

If you assumed that with all those standard features the Aspencade is fully equipped, that it has every device known to touring man, you'd be wrong. The bike also can be fitted with an optional CB radio, cassette tape deck and intercom (see page 60 for a complete description). The full sound system retails for $1510 (plus installation) above the "bare" Aspencade's already lofty $6798 pricetag, and it raises some serious questions. For one: Who would pay that kind of money? For two: With the bike stuffed to the gills with all its standard features as well as the full load of Hondaline options, there are more than 50 switches, knobs, buttons, levers and other sundry items to play with, and a dozen or so displays to attend to—most having very little to do with either the road or traffic; who needs all of that?

They're both fair questions, and ones that we frankly couldn't answer until thousands of miles had passed under the Aspencade's oversized Dunlops. And out there, 400 miles into the riding day and a few hundred before our destination, the answer came through as clear as the thumping bass on the Aspencade's music machine: anyone who wants to tour the best way it can be done, that's who needs it.

Out there, the Aspencade displays its pure touring *stuff*, not simply its lights and flashes. Its horizontally opposed, liquid-cooled engine shows why it has become a touring standard. Power comes on at about four grand, which makes the tall-geared Aspencade most comfortable cruising at an illegal 65 mph or so. At that engine speed, nothing more than a handful of throttle is necessary to negotiate a quick pass. Below 4000 rpm, though, a gearchange down is what's needed for a quick burst. Drop down to third and the tour king gives a royal rush of acceleration—as well as an unexpected dose of gear whine and exhaust howl.

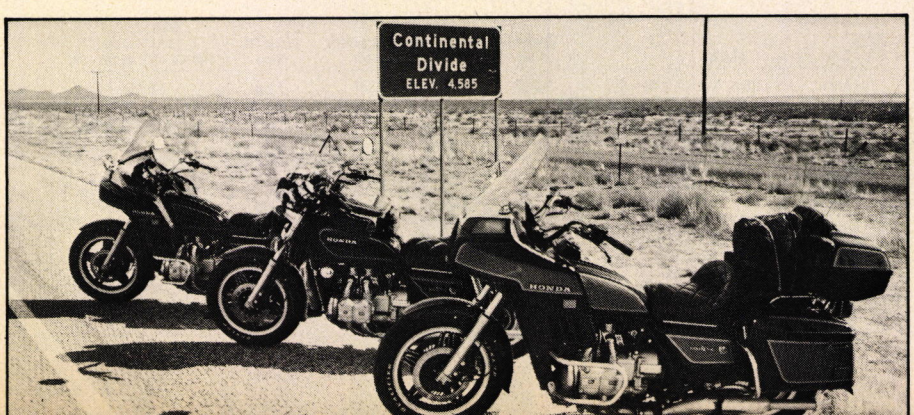
But back at cruising speed is where everything about the bike comes into synch. The Aspencade's full fairing generates a large dead-air zone of excellent protection in any weather, and the touring seat makes even long hours in the saddle seem more like a spin around the block. And if the windscreen's weather protection or the seating position aren't quite right, change 'em. Both can be adjusted by the side of the road in a matter of minutes.

At highway speeds, any engine vibration you detect will be largely the product of an overactive imagination and not the work of the Honda's engine. With the suspension units pumped up to maximum recommended pressures (loaded or unloaded, one rider or two, the Aspencade rode best at or near maximum recommended air-pressure settings), the bike simply sails on, taking all but the harshest of sharp-edged bumps in stride. A longish wheelbase and the low center of gravity afforded by the engine configuration provide precisely the sort of ride to make long hauls seem shorter: quick to switch lanes when you want to, but not requiring much attention when all you want to do is *ride*. The only distraction to the vertical perfection of the Aspencade is a tendency to shimmy over longitudinal paving marks and rain grooves—something we didn't notice on the last two Gold Wings we tested, both Interstates. One explanation is that the front tire sets up a pendulum effect as its increased mass moves over pavement irregularities, making the handlebar start to waggle. The phenomenon is not alarming, just something new.

Also new is the feeling the Aspencade generates on high-speed twisty pavement—that it might really rather be back on the Superslab. Previous Interstates we tested would crank over far enough to deform centerstand legs and recontour footpegs, all without losing a shred of dignity. The Aspencade will still touch down stands and pegs (in around-town riding, if you force the issue), but without quite the same sure feel of past GL1100s. Part of it is due simply to there being more motorcycle (the Aspencade is 33 pounds heavier than the Interstate we tested in the August 1981 issue), but tire compound also seems to be involved. The new Gold Wing tires were designed for higher mileage, apparently at the expense of sporting grip.

No matter, really, unless you fancy yourself as the ultimate endurance racer. The bike will still handle hard cornering, though perhaps best at only seven tenths. And if a host of sportbikes can tuck inside the Aspencade in hard cornering, so what? When the sport riders have long since garaged their bikes, the Aspencader still will be riding, with states to cross before the sun goes down.

The GL1100A is the unequivocal champion of the touring world. Its high-tech accouterments, plus the well-thought-out motorcycle beneath them, guarantee it. But while the Aspencade prepares its rider for virtually every touring eventuality, it still leaves him open to one question, asked by motorcycling and non-motorcycling friends alike. It goes something like: "Geez, with all that stuff on there, isn't it almost a car?" Fat chance. The car should be so lucky. •



Continued

Ride Review

• My image of touring riders took a 90-degree turn after I rode the Aspencade. I always thought touring guys were grizzled men with leathery skin who preferred to ride from sunup to sundown—plus a few more sweeps of the clock's minute hand—with one thing in mind, to ride.

Wrong. You don't ride the Aspencade, you experience it. Numb-butt boredom is left motionless over the last horizon when you board this land cruiser. There's all kinds of entertainment for your cruise: CB, cassette tape deck, AM/FM stereo, on-board intercom, and even an LED clock to tell you how long you've been playing with your electronic gadgetry.

Indeed, the Aspencade ruined an image for me. Because anyone who pops for this rolling audio-playhouse has more on his mind than just sun-up/sun-down riding. He also has intentions of fun.

—Dain Gingerelli

• I can't really call myself a touring guy because I don't spend every weekend a thousand miles from home with only a helmet for company. I'd normally be out in the dirt or carving through a twisty canyon close to home, but since riding the Aspencade I keep looking at the atlas.

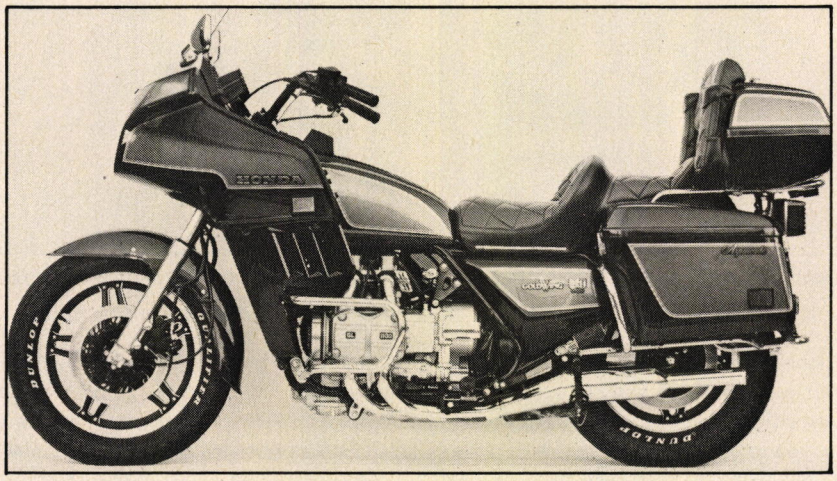
I've also figured that if I sell my motocross bike, boots and pants and trade in my canyon cruiser I can afford to buy an Aspencade. Then I'd have lots of free weekends to go see some far-away motocross races and maybe a few roadrace events too. I could even ride to see my sister out on the East Coast. Maybe in spring I could even take that trip up to Canada that I've always promised myself.

I might not do any of those things, because as I said, I'm not really a touring guy, but the Aspencade has got me thinking seriously. *—David Dewhurst*

• My guess is, Willie Nelson would love the Aspencade. Even the terrific stereo seems tuned for *On The Road Again*. And well before the halfway mark of the tour test, I knew it was the hot tip for a long, cold trip. The Interstate *was* the best distance bike around; the Aspencade just adds all the things you'd add yourself anyway if you were a compulsive long-hauler, including a custom seat that's real comfy and a beautiful paint job. True, you can order most of the Aspencade's tour tricks for an Interstate, but why bother? It'd be a hassle, and at this level there's no more sense in going part way on the bike than part way on the ride, far as I can see. And Willie would agree.

Yes, this is Number One for the high plains drifter, that rider who measures trips by sunsets and is always willing to make the next town if his mount is able. The Aspencade is. *—Don Fuller*

Honda GL1100A Aspencade



SPECIFICATIONS:

IMPORTER: American Honda Motor Company
100 West Alondra Boulevard
Gardena, California 90247

CATEGORY: touring

SUGGESTED RETAIL PRICE: $6798

ENGINE

Type	liquid-cooled four-stroke horizontally opposed four
Valve arrangement	single overhead camshafts
Bore and stroke	75.0mm x 61.4mm
Displacement	1085.0cc
Compression ratio	9.2:1
Carburetion	four 30mm Keihin constant-vacuum, one accelerator pump
Air filter	disposable paper element
Lubrication	wet sump
Starting system	electric only
Ignition	transistorized breakerless (with vacuum advance)
Charging system	12-volt; alternator, voltage regulator, rectifier

DRIVETRAIN

Primary drive	Hy-vo type chain; 1.708:1 ratio
Clutch	wet, multi-plate
Transmission-to-driveshaft	straight-cut gears; 0.973:1 ratio
Driveshaft-to-rear-wheel	spiral-bevel gears; 3.100:1 ratio

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	2.500	12.880	5.8
II	1.667	8.588	8.6
III	1.250	6.440	11.5
IV	1.000	5.152	14.4
V	0.829	4.271	17.3

SUSPENSION/WHEEL TRAVEL

Front	air-spring, 41mm stanchion tube diameter /5.9 in. (150mm)
Rear	air-spring/3.8 in. (95mm)

BRAKES

Front	dual single-action hydraulic calipers, 11.7-in. (296mm) discs
Rear	single-action hydraulic caliper, 11.7-in. (296mm) disc

TIRES

Front	120/90-18 65H Dunlop Qualifier F11 tubeless
Rear	140/90-16 71H Dunlop Qualifier K127 tubeless

DIMENSIONS AND CAPACITIES

Weight	724 lbs. (328kg)
Weight distribution	43.9% front, 56.1% rear
Gross vehicle weight rating (GVWR)	1150 lbs. (522kg)
Wheelbase	64.0 in. (1626mm)
Seat height	30.8 in. (782mm)
Handlebar width	32.0 in. (815mm)
Footpeg height	11.3 in. (287mm)
Ground clearance	5.3 in. (135mm), at centerstand
Steering head angle	29.2 degrees from vertical
Front wheel trail	5.2 in. (132mm)
Frame	tubular mild steel, double front downtubes
Oil capacity	4.2 qt. (4.0*l*)
Fuel tank	steel, 5.4 gal. (20.5*l*), including 1.1 gal. (4.0*l*) reserve
Instrumentation	speedometer, odometer, tripmeter resettable to zero, tachometer, digital clock/radio-frequency readout, voltmeter, temperature gauge, fuel gauge, suspension air-pressure gauge

PERFORMANCE

Fuel consumption	40 to 50 mpg (17 to 21 km/*l*)
Average fuel consumption	43 mpg (18 km/*l*)
Range, maximum	216 to 270 miles (348 to 434km)
Range, reserve only	44 to 55 miles (71 to 88km)
Speedometer error, 30 mph indicated	31 mph actual
Speedometer error, 55 mph indicated	55 mph actual
Best 1/4-mile acceleration	13.227 sec., 98.79 mph (159 kph)
Top speed (calculated)	139 mph (223 kph)
Stopping distance from 30 mph	32 ft. (10m)
Stopping distance from 60 mph	145 ft. (44m)

WARRANTY: 6 months/6000 miles

AVAILABLE COLORS: Sterling Silver Metallic
or Sorrel Brown Metallic

All weights and measurements are taken with machine unladen and fuel tank empty

COMPARATIVE TEST DATA:

Make	Quarter-Mile, sec/mph	Top-Speed, mph	Weight, lbs	Stopping Distance From 60 mph, ft.
Honda GL1100A Aspencade-'82	13.23/98.8	139	724	145
Honda GL1100 Interstate-'81	13.37/99.7	130	691	148
Kawasaki KZ1300A GT-'80	12.71/107.4	135	730	146
Harley-Davidson FLT Tour Glide-'80	15.58/83.9	108	785	161
Honda CBX-'81	12.01/113.9	136	646	130
BMW R100RS-'81	13.48/98.4	127	492	145

MINITEST:

Honda GL1100 Gold Wing

The bungee-cord alternative to turn-key touring.

• In a way, the standard GL1100 has always seemed stuck in an identity dilemma: Exactly what is it? When first introduced, compared to then-current competition it had a strong engine and went fast. A sport bike? Well, no; too big and too heavy. A tourer? Probably. It became the latter, the touring standard, in fact, only after serious modifications from the factory and the appearance of hordes of after-market accessories.

For 1982 the improvements continue. There is taller gearing, bigger tires, twin-piston brakes among them.

But what of the bike that started this, the basic Gold Wing? There seem to be two reasons in life for the strippo Gold Wing.

One. It's the build-it-yourself touring bike. If, for some reason, a rider thinks the Interstate/Aspencade accouterments are not good enough or just not what he wants, he can opt for the basic mechanical parts and roll his own. Do it any way he likes and paint it chartreuse. Or he might seek individuality, an important point with touring folk, who spend considerable time comparing hardware (and one-upping themselves with it).

There is, however, a second choice. The basic Gold Wing is a great bike for running up a lot of miles on Just a Motorcycle. This is a bit of the man-and-his-horse syndrome, out on the trail with wind and rain in the face. But it holds certain attractions. The bike is big, fast enough, comfortable and, like a good horse, reliable all day long. Even in rain and snow. Below freezing, with ice and snow covering the engine and carburetors so thick the choke wouldn't budge, it still started right up. On our trip, the stripper matched the Intertate and Aspencade mile for mile, and was not always the last choice, particularly when off the boringly, dead-straight Superslab. Compared to its heavier kin, it became the sport bike of the trio, feeling comparatively light and nimble, and always handling much better just because there was less stuff hanging off of it.

HONDA GL1100 GOLD WING

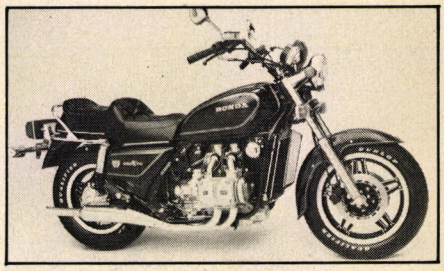
Importer: American Honda Motor Company, Inc.
100 West Alondra Boulevard
Gardena, California 90247

Category	touring
Suggested retail price	$4248
Engine type	liquid-cooled four-stroke horizontally opposed four
Valve arrangement	single overhead camshafts
Bore and stroke	75.0mm x 61.4mm
Displacement	1085.0cc
Compression ratio	9.2:1
Carburetion	four 30mm Keihin constant-vacuum (one accelerator pump)
Gearbox	5-speed
Front fork/wheel travel	air-spring, 41mm stanchion tube diameter/5.9 in. (150mm)
Rear shocks/wheel travel	air-spring /3.8 in. (95mm)
Wheelbase	64.0 in. (1626mm)
Seat height	31.7 in. (805mm)
Weight	606 lbs. (275kg)
Best ¼-mile acceleration	12.613 sec. 106.50 mph (171 kph)
Top speed (calculated)	139 mph (223 kph)
Fuel consumption	41 to 49 mpg (17 to 21 km/l)
Average fuel consumption	45 mpg (19 km/l)
Warranty	6 months/6000 miles
Available colors	Candy Wineberry Red, Cosmo Metallic Black or black

PHOTOGRAPHY © 1982 VIC HUBER

Stripper GL proves that touring isn't always synonymous with fairings and bags

And Gold Winging it without the bolt-ons has its own advantages.



For me, it's that second option: the tank bag and bungee-cord alternative. In that way it will carry everything I need for a week and more. The big opposed four is long-haul reassurance; unobtrusively smooth and dependably—comfortingly—powerful and reliable. This is a motorcycle you know, just know, will get you through, and there are places where the peace of mind born of that reassurance is worth a lot.

Which gives you the best of two worlds. If you want Just Motorcycle, it fits. But out 413 miles from nowhere, it's nice to know it will bring you home again, and that's the benefit of all the touring development that's gone into the Gold Wing. That it drags metal in the corners, that it occasionally bottoms on whoopers, is irrelevant. It handles better than anything else that will go its distance as comfortably, it goes the distance better than anything else that handles as well. The Gold Wing stripper might not be the motorcycle for all reasons, but it can be a fine bike for many of them.

What is it? Just about anything you want it to be. The choice is yours. —*Don Fuller*

MINITEST:

Honda GL1100 Interstate

It remains one of the shortest distances between two points.

• There's good news and bad news about this year's Honda Interstate. First the good news: The bike is better than before. Now the bad news: It's only the second best turn-key touring bike you can buy. The Aspencade is better.

But that's no insult to the Interstate, since the Aspencade is based on the black beauty (available colors are Wineberry Red, Cosmo Metallic Black and plain black). Both Interstate and Aspencade share many of the same 1982 improvements, so in the process of being relegated to second best, the Interstate also got better.

The major difference between the two bikes that may concern you are their prices. The Interstate's $5448 retail price is $1350 less than the Aspencade's. That price difference reflects some of the Aspencade's OEM amenities not showing up on the Interstate, including: on-board air pump for the suspension, vented disc brakes, custom upholstery and paint, and the AM/FM radio that is optional on the Interstate.

The Interstate shares *all* the remaining 1982 techno-improvements with the Aspencade and GL1100 Gold Wing, making it an even better long-distance hauler than before. Deep in the bowels of the opposed-four engine are taller (numerically lower) third, fourth and fifth gear ratios than on previous GL1100s. The twin-piston disc brake calipers come standard with the faired GL, too.

Like all its GL kin, the Interstate rides on raised-white-letter Dunlop tires. The Dunlops also help increase the Interstate's gross vehicle weight rating, so you can pack more in those Hondaline saddlebags.

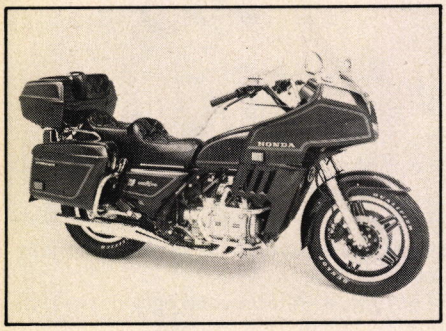
Further 1982 changes include a hinged license plate bracket and a new swingarm to accommodate the larger rear tire. Honda didn't forget the passenger, either, and installed air-cushion rear footpegs and a second helmet lock.

What hasn't changed for 1982 is the way the Interstate performs on the open road. The fairing doesn't rattle or clatter from ill-fitting pieces, and it shields the Interstate rider from the wind well. You can spend an entire day perched on the comfortable bucket seat behind the polycarbonate windscreen and still feel fresh for dining and dancing later.

If it sounds like the Interstate is near-perfect, that's because it is. However, there was a minor flaw with our test bike. The Hondaline travel trunk and saddlebags shed their rubber trim molding, a problem we've encountered on previous Interstates. Honda claims the rubber trim has been redesigned to fit better, but our bike was delivered with about 5,000 miles logged on the odometer, and by then the molding was well on the way to peeling.

But even considering the rubber-molding strip tease act, the Interstate remains one of the best long-distance bikes available. By Aspencade standards it may be second best, but even so, the rest of the touring bike world has yet to catch up with it. And if your bank account can't justify the Aspencade, then the Interstate will remain number one for you.

—Dain Gingerelli



HONDA GL1100 INTERSTATE

Importer: American Honda Motor Company, Inc.
100 West Alondra Boulevard
Gardena, California 90247

Category	touring
Suggested retail price	$5448
Engine type	liquid-cooled four-stroke horizontally opposed four
Valve arrangement	single overhead camshafts
Bore and stroke	75.0mm x 61.4mm
Displacement	1085.0cc
Compression ratio	9.2:1
Carburetion	four 30mm Keihin constant-vacuum (one accelerator pump)
Gearbox	5-speed
Front fork/wheel travel	air-spring, 41mm stanchion tube diameter/5.9 in. (150mm)
Rear shocks/wheel travel	air-spring /3.8 in. (95mm)
Wheelbase	64.0 in. (1626mm)
Seat height	31.0 in. (788mm)
Weight	697 lbs. (316kg)
Best ¼-mile acceleration	13.309 sec. 99.55 mph (160 kph)
Top speed (calculated)	139 mph (223 kph)
Fuel consumption	40 to 50 mpg (17 to 21 km/l)
Average fuel consumption	44 mpg (19 km/l)
Warranty	6 months/6000 miles
Available colors	Candy Wineberry Red, Cosmo Metallic Black or black

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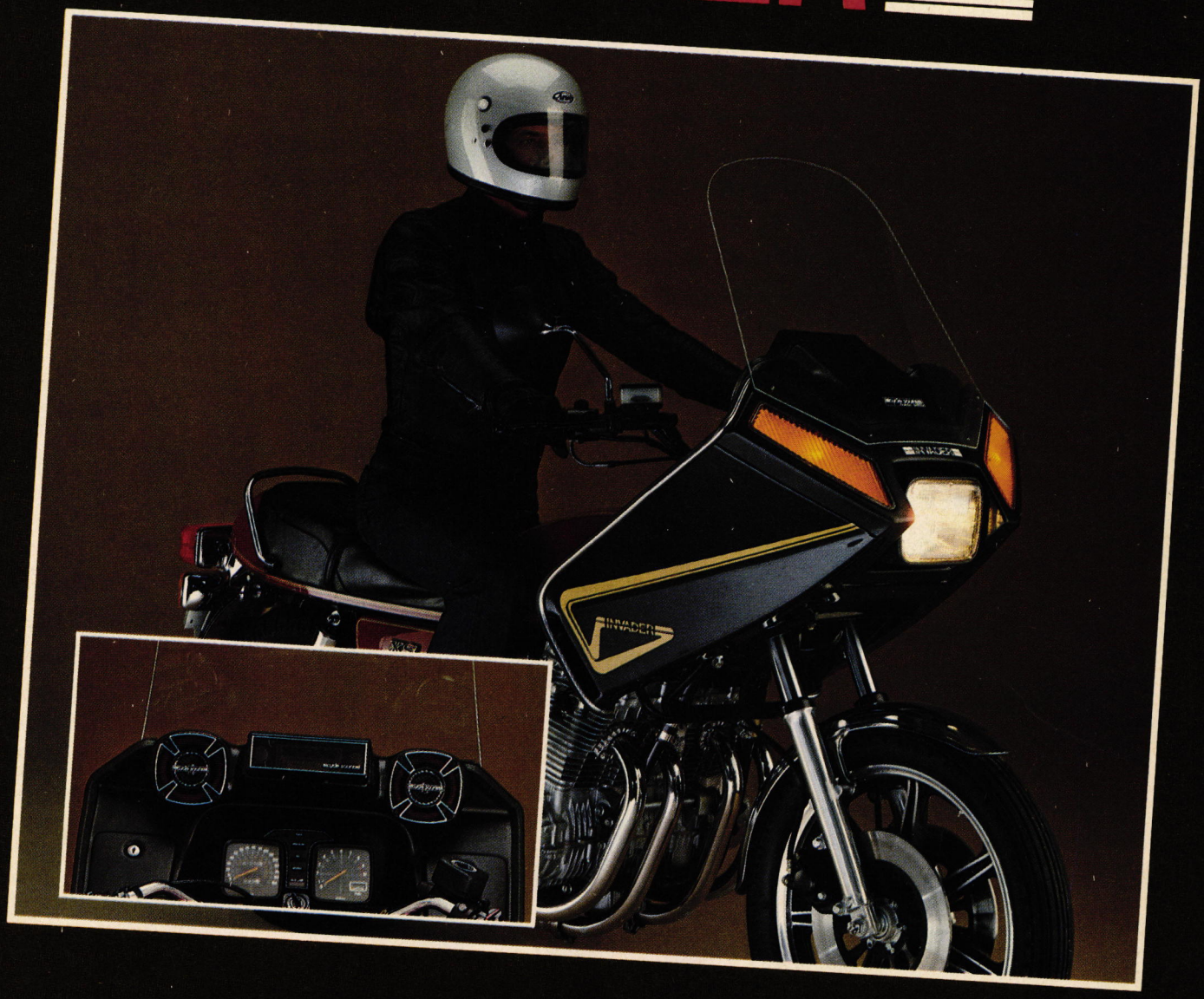
The Interstate rolls into 1982 with new tires, wheels and brake calipers

Refining even further its ability to carve into any horizon labeled Interstate.

NEW FROM CYCLE SOUND . . .

INVADER



Cycle Sound, a name known for quality in Cycle stereophonics, introduces the "INVADER". A full size fairing at a sensible price. New wedge design and superb engineering give you style and protection in a tough durable frame mounted fairing.

Invader is available for most popular bikes 600cc and larger. Standard equipment includes: hardware that is interchangeable with most popular fairing mounting systems, D.O.T. approved windshield, large flush mounted directional signal and running lights, rectangular headlight and twin locking storage compartments.

Optional Cycle Sound custom in-dash stereo system features "Laminar" concealed antenna, radio cover and water proofed speakers.

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Division of Hoese Corp.
P.O. Box 41G • Bulverde, Texas 78163 • (512) 438-2211

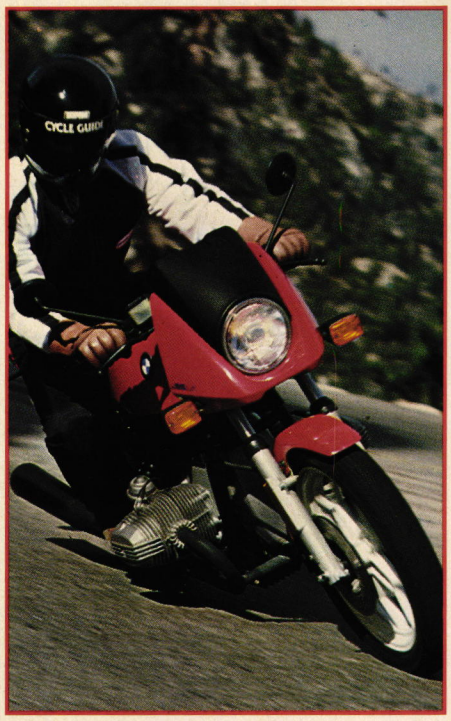
Invader fairing , $349.95. Cycle Sound standard model, $79.95. Coaxial model, (shown) $99.95.

ROAD TEST:

BMW R65LS

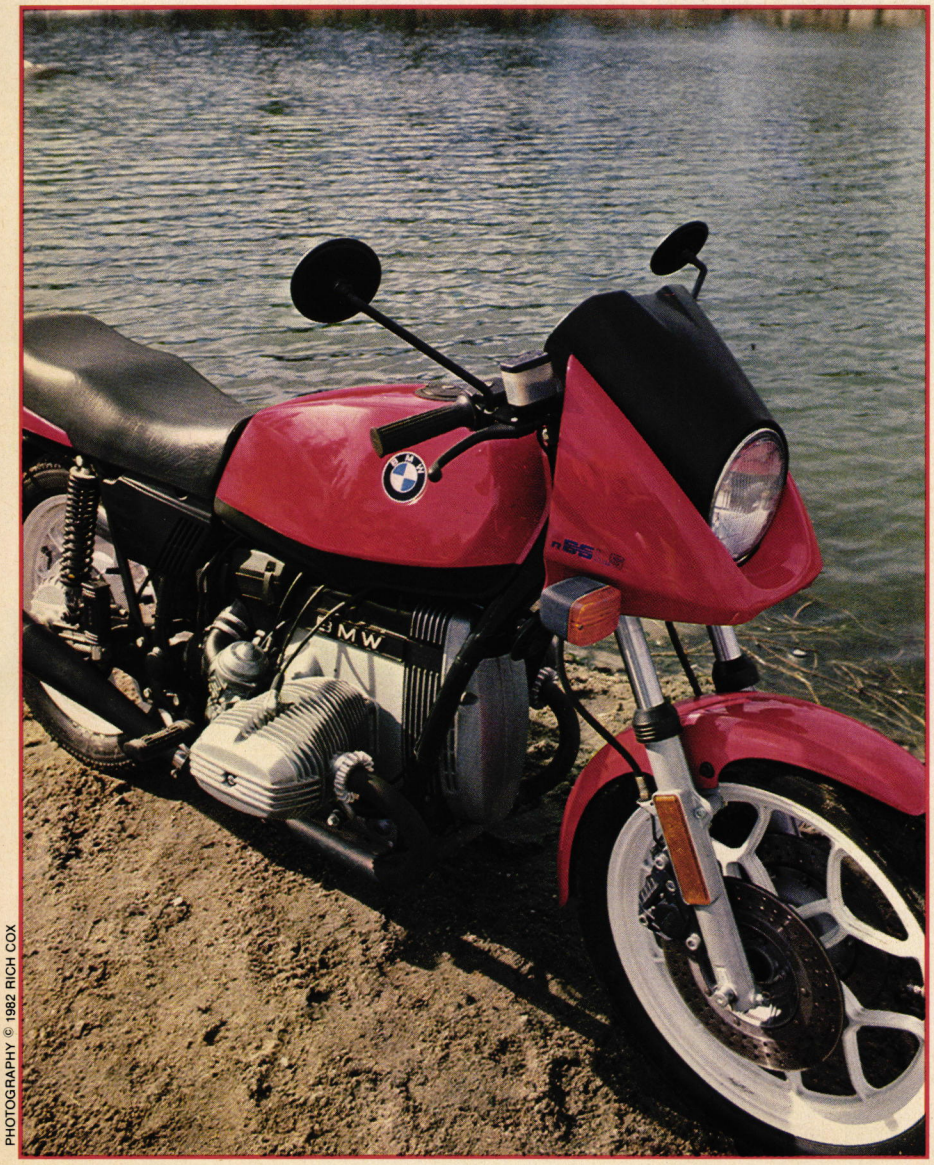
Does it stand for "Leichtes Sport" or a new BMW philosophy?

BY STEVE THOMPSON



BMW's new R65LS is like only one other motorcycle in the world. Naturally, that other motorcycle is also a BMW. In fact, that other BMW is the R65 itself, and this peculiar relationship is one that longtime motorcyclists will recognize. Not solely because of the special design features of Beemers—the opposed-twin ohv engine driving a shaft—BMWs have long been more like one another than they have Japanese, Italian or English bikes. A kind of corporate vision also binds the bikes together, a combination of styling tastes and mission definitions that set BMWs apart. The LS continues that tradition. But it also takes BMW into a zone it has never been in before—the zone of the flashbike.

Unlike the other sporting Beemers, past and present, the LS makes an obvious sporting statement without the hardware to back it up. BMW has configured the 650cc duo so that the LS and standard R65 are, with minor exception, mechanically identical. The additional premium asked for the LS buys little more than styling. The same 649cc ohv engine, complete with the same ignitions, 34mm Bing carburetors, gearboxes and final drives, powers both bikes. Only the wheels are different; BMW calls them "compound" wheels because they're cast from two aluminum alloys of differing hardnesses. The outer rim section is hardest, says BMW, for strength, while the inner spider is softer and more flexible to achieve spoked-wheel response to road shocks and cornering "feel." They're made for BMW by Alu-Swiss, a wheel manufacturer, which with BMW has been working on the idea for five years. The wheels are patented, and you can expect to see them on future BMWs as the current supply of conventional cast wheels is used up.



PHOTOGRAPHY © 1982 RICH COX

The flash for the LS isn't really in the wheels, though their color—"cream," according to BMW, for the Henna Red LS and silver for the equally silver Polaris Metallic bikes—adds something. The real flash comes from the little nosecone fairing around the headlight, the seat's tailcone and the black exhaust system. The net effect of these on the red bike is to spell "sport" in large letters. There is the promise of something quite special in the style of the LS. But an analysis of the pieces erodes the promise quickly.

According to BMW, Hans Muth (of Suzuki Katana fame) had a hand in the LS design. To support this there is the definite resemblance between the Suzuki's nosecone fairing and the LS's. But BMW literature claims that the plastic piece does essentially what the exotic R100RS fairing

does—reduces front-end lift by "approximately one-third." This kind of design feature is classically BMW—but only if it works. If it is purely cosmetic, something else lies beneath the red bits.

What lies beneath it on the LS is BMW's need to expand its market, especially for the younger riders. Someone without a middle-aged manager's income might dream of a new RS, but the banks usually have other ideas. Thus the price difference of the R65 and the LS—$395—can get that younger man his blue-and-white logo, attached to a stunning piece of hardware.

The trouble is that the stunning part of the LS is in its looks alone, not in what it does on the road—the classic paradox of the flashbike. This is not to say that the LS does not perform well as a motorcycle—quite the opposite—but rather that its mean-as-hell looks portend things that don't appear on the road.

The specifications give you an inkling of this before you even light the engine off. The bike is light, at 417 pounds (no fuel), six pounds lighter than our 1981 test R65. And it does have the same improvements that bike had (better clutch action, lightened cylinders, stronger rear-end housing, electronic ignition), so you'd reasonably expect it to perform much as the '81 did, knocking down quarter-mile times in the low 14s and topping out around 110 mph, with mid-forties mileage.

Opening the handlebar-mounted choke on the LS also produces the same sensations of that '81 bike; a few cranks and the boxermotor stutters to life, the torque reaction of the longitudinal-crank engine gently shaking the bike laterally under your seat. You sit hunkered lower on the LS because of the low bar, but your feet are in the same place as on the standard R65, so the net effect is to slide you farther over the gas tank. The new seat is a little harder than the standard bike's, but is still not uncomfortably so, missing by a wide margin the awful two-by-four feel beloved of the Italian flashbike builders. The standard bike's grab strap is replaced by the moulded-in handgrips on the LS's tailcone, too.

As a function of BMW's Pulse-Air injection system (that helps the motor meet EPA exhaust-emissions requirements by routing air from inside the airbox via two steel lines, directly to the exhaust ports), vacuum created by the flow of exhaust draws air through a one-way reed valve in the airbox to the port. Thus the added oxygen prolongs burning of the gases in the exhaust pipe. The System allows a fuel mixture that is not lean to the point of strangulation, so the R65LS can accept partial or full throttle without lengthy warm-up times, and produces little lean-surge.

Clutch, brake and throttle controls have received a lot of work in the last years at BMW to lower efforts, and so the first thing you really notice about the controls is that the horn and turn indicator switches on the lefthand grip are reversed from

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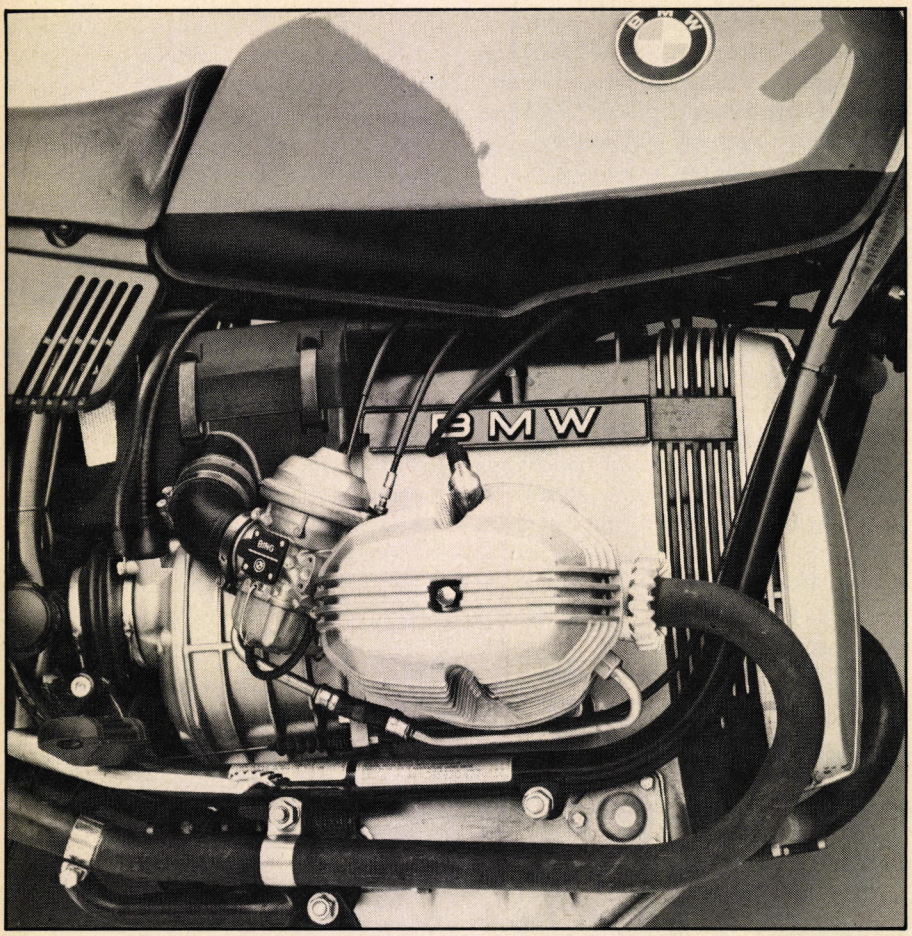
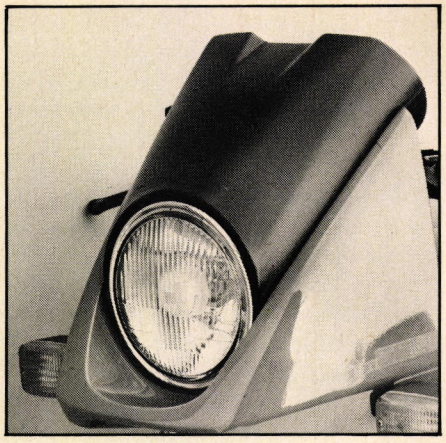
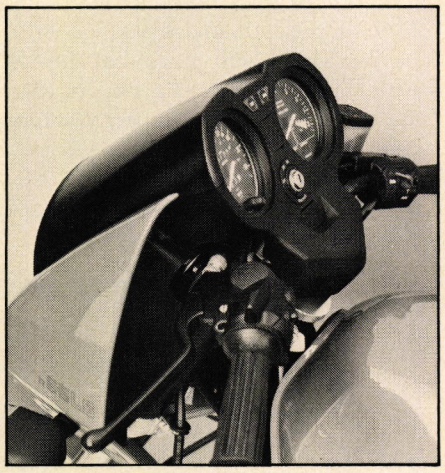


PHOTOGRAPHY © 1982 VIC HUBER

One each boxermotor, size Medium

A power transplant from the most likely donor of all: the standard R65





Muth-inspired mini-fairing

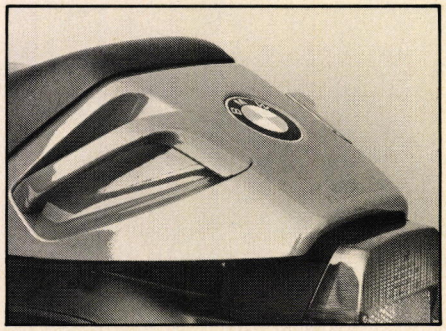
High on sizzle, low on steak.

standard Japanese positions; the horn is above the high-beam paddle and the turn indicator below it. This takes considerably less getting-used-to than the old BMW arrangements, but still requires some thought in use.

Although the gearbox, like all BMW gearboxes within living memory, is somewhat clunky, it requires not nearly so much attention. The five ratios are spaced well to make good use of the bike's 5500-rpm torque peak, and finding neutral or first gear when stopped is not the infuriating experience it used to be on a BMW.

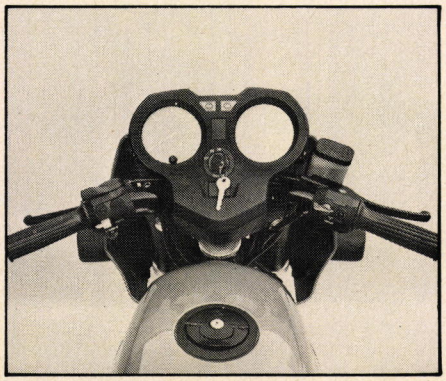
The effect of the light controls, the progressive and linear brakes and the low-revving engine is to make the LS a docile and pleasant first ride. In your first moments on the machine, the words "nice bike" inevitably cross your mind. Subsequent slightly harder riding does nothing to dispel the notion.

Despite the LS's—and BMW's in general—use of non-damping-adjustable suspension units fore and aft, the bike's ride and handling are exemplary. Because it has neither the bulk nor the power of the bigger engines to contend with, the chassis of the LS is stable and confidence-inspiring. Last



Grab handles built onto the tailpiece

A stylish alternative to a seat strap.



The gauges are standard R65 all the way

But the handlebar is pure sportbike.

year all R65s got a thicker, stiffer and 10mm longer swingarm, an improved fork (more nylon bushings and less seal friction) and the result was almost complete elimination of any uneasiness in cornering. Fork compliance is good on the LS, although stutter bumps steal some fork response. The shocks also do a good job, with little fade on long, hard trips, although riding at or near the bike's GVWR makes them less attractive. In that configuration, even with the spring preload at max, the rear end wallows a little, just as it does if the bike is ridden hard one-up through the twisties with the preload on soft.

It's in those twisties, all alone with your sportbike face on, that the LS begins to be less the pleasant bike it was when the performance ante wasn't so high, back there in town, on the freeway, or even two-up, riding through the countryside at no more than six-tenths. When you get serious about living up to the promise of the black pipes and the racer-red paint, the LS fades.

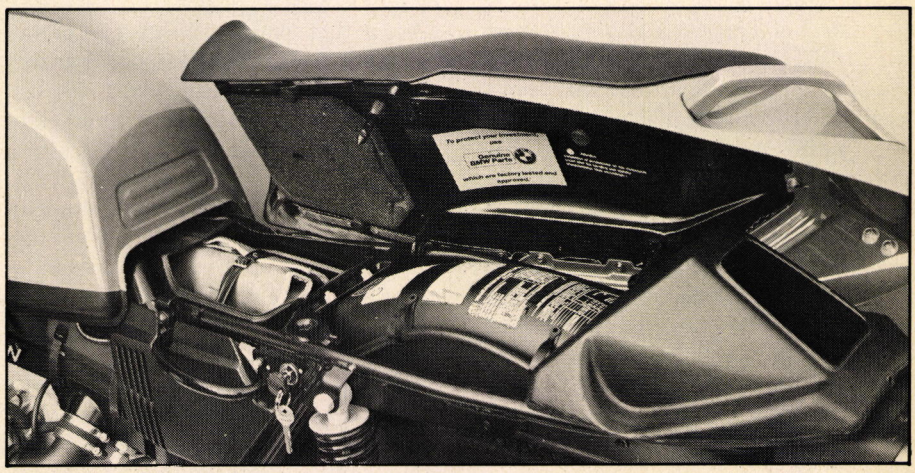
Specifically, although the superb Continental tires grip tenaciously, wet or dry, the cornering clearances and power available limit the rate at which you can eat corners. The side- and centerstand drag easily on

the left, and the muffler bolt on the right grounds at about the same lean angle—both well before the cylinder heads near the tarmac. Coupled with leisurely acceleration, the result is frustration; the chassis and suspension seem to cry out for more, but it simply isn't there. In other words, what point to have an aerodynamic device designed to lessen lift if the high speeds at which it will work best aren't even available? Why have exotic wheels better to work at high cornering speeds if those speeds can't be attained?

If the LS were a contender for King of the Middleweight Sportbikes, those would be damning indictments. But after a few miles, you realize that the machine is happiest at a little less than sport-touring speeds and lean angles. It is a stable, competent, pleasant motorcycle—nothing more. Its job is to look good and work nicely—no more. Kawasaki GPz550s will eat it for breakfast, in *all* areas of performance, as will Yamaha XJ650 Secas and a gaggle of the other new Japanese sport-GT middleweights. But *they* are not BMWs—and the LS is.

Thus after your hard ride with the LS, you are back where you started—comparing it not with other companies' products, but with other BMWs. And unfortunately, even in that faceoff—or maybe especially there—it fades a bit from its fierce racer-red.

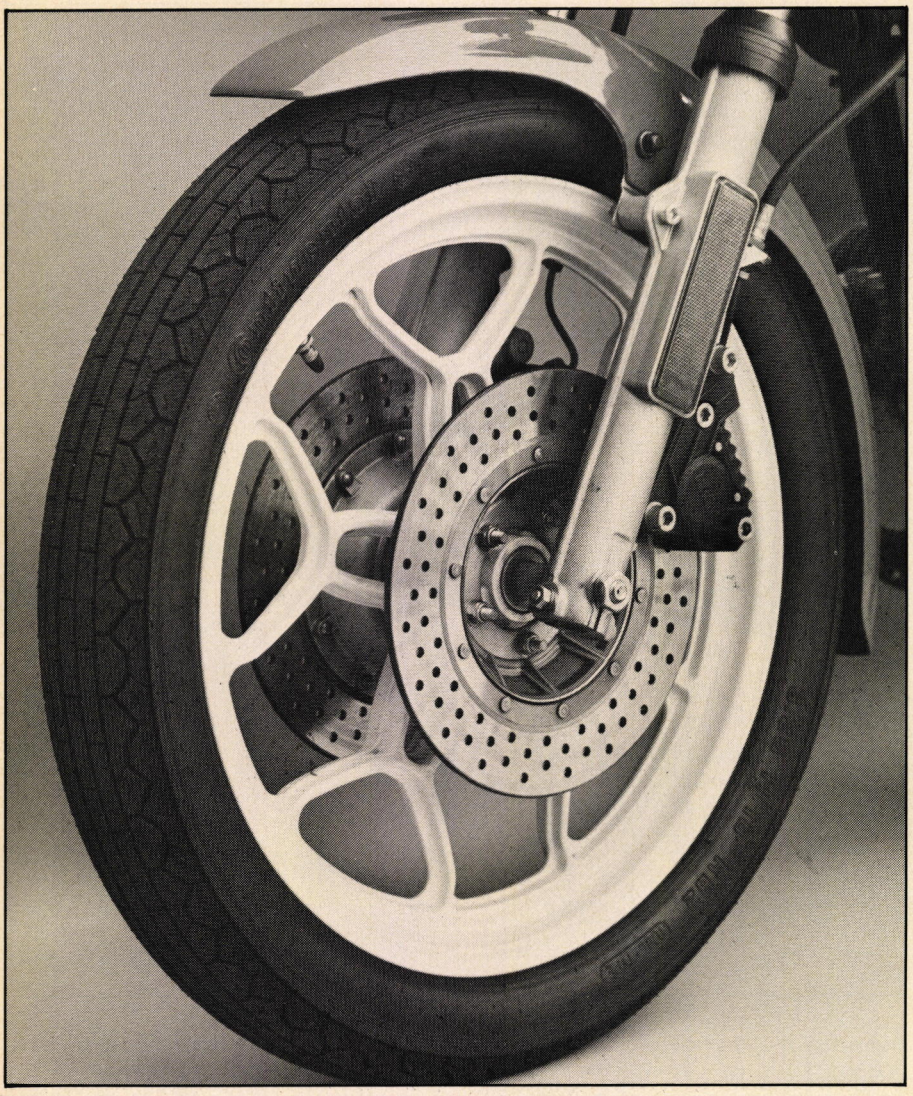
Our machine displayed decidedly unaristocratic faults, which we would shrug off neither in other bikes nor in BMWs. The severe vibration between 4200 and 4700 rpm got better, though not by much, after the second thousand miles showed up on the odometer. But the self-destructing mirror head never got better—and couldn't, since, perhaps because of the vibration, it disassembled itelf. Were it possible to rebuild BMW mirrors, this might be of small consequence. But because you must buy the whole thing, it looms large. Furthermore, the mirrors were never a delight to use in the first place, a function of their



Generous under-seat storage, a BMW hallmark for years

And thanks to the redesigned tail section, there's even more of it on the LS.

Continued

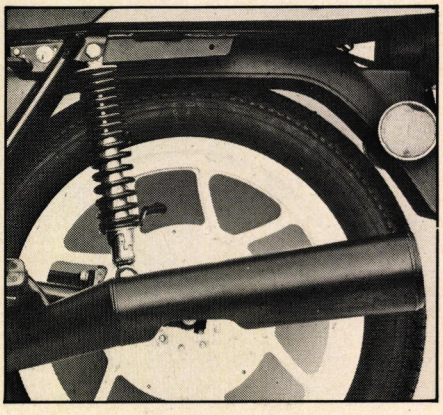


BMW's better idea: composite wheels that use a hard rim molded onto a soft "spider"

For the look of mags and the feel of spokes.

R65LS rider acting out BMW credo:

Think low effort, not high power.



Plasma–sprayed flat-black exhaust

Racy, but likely to be rusty as well.

difficulty of adjustment (a locknut secures them under the lever blocks) and their placement too far inboard.

But the most serious flaw on our bike was a direct result of the styling. The exhaust system is matte-black on the LS, the product of a process BMW spokesmen call "black chroming," although they hasten to point out that they mean something entirely different from what the Japanese mean. And so they must, because within weeks of the bike's arrival, the exhaust system began to display points of corrosion. Even after a lot of staff elbow grease had been expended on cleaning up the pipes, they still looked sickly, discolored at the headers and leprous on the mufflers. It's possible this particular machine suffers from some quality control deficiency; we'll track the matter with BMW and report it in future issues (see upcoming Guide Lines' *After the Fact*).

There remains yet more annoyance with the LS. Because the "sports cockpit" mounts to the headlight brackets—and obscures them—a rider wishing to mount a fairing is urged, in a BMW spokesman's words, simply to "buy the standard R65" rather than struggle with circumventing the plastic nacelle.

And in that comment lies the crux of the LS problem. Why shouldn't one buy the standard bike? All he is losing, for his unspent $395, is another disc brake, the compound wheels and the "style" of the flashbike. We could find no operational advantages of the "sports cockpit," either in wind-deflection or lift-killing. Perhaps wind-tunnel testing would disclose values impossible to feel on the road—but if they're impossible to feel, of what value are they?

There is nothing, absolutely nothing, wrong with cosmetics as "value," on this motorcycle or any other. Esthetics are as vital a part of the design of a machine as mechanics. Furthermore, the value of a manufacturer offering stylistically different versions of the same fundamental machine also is obvious.

However, when function either is touted for the cosmetics, or when the cosmetics actually impede function, the tradeoff should be clear to the prospective buyer. The counterpoint to our criticism of the LS's "cockpit" is indeed true; it is of course not only likely but indeed probable that many of the 1000 expected '82 LS buyers—20 percent of all U.S. BMW sales in this year—will care not one whit whether they can mount a fairing or not. Nor even whether or not the cockpit reduces lift by five percent, thirty or none.

If there were a dozen, or even a half-dozen bikes like the R65 LS, the price and promise of its styling might be of greater importance. But because there aren't—because, in fact, only the R65 itself is like it—this BMW, like all previous BMWs, will have to carve its own special niche, define its own unique mission. It is at once the curse and the beauty of the marque. •

Ride Review

• Since the days when BMW was rumored to mean black mit white, I knew that if BMW ever made a real red motorcycle, an Italian-red motorcycle, it would be a heart-stopper. Any flagrantly red Beemer sportbike would have to be a feather-weight ball of barely restrained fury, I figured. Well, I was wrong. The red-red R65LS proved me wrong.

But don't get *me* wrong. The LS is still a stopper, just not the one I expected. For one, it managed to draw admirers in parking lots and in traffic wherever it went. And at speed, on open, twisty sections of backroad, it approached the image of bright-red BMW that I had conjured. But shouting distance was as close as it got. The LS is a kind of BMW that I had never considered: a flashbike. It projects the image of poor man's R100RS, but delivers only the performance of a well-heeled R65. *—Larry Works*

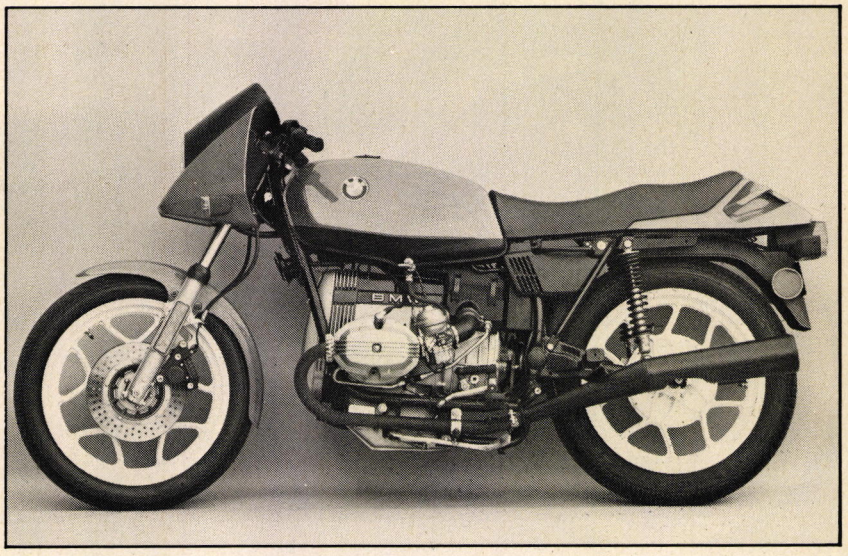
• As a motorcyclist, I've often wondered how anyone could spend upwards of $30,000 for an exotic-looking sportscar that can be dusted by some of the cheapest two-wheelers around. It just didn't make sense to spend all that money just for show with not too much go. But the BMW R65LS has changed my point of view. Because, like so many of those exotic four-wheelers, the LS has very flashy looks, not too much engine performance, and despite BMW's price cutting, a far from bargain-basement price.

I now can understand why the four-wheel guys get excited about their exoticars, because the almost-as-irrational Beemer excites me too. It has a certain something that sets it apart from the two-wheeled world. I still don't think I could spend all that money just for looks, but now I understand why some people do.
—David Dewhurst

• There's a school-yard lesson that BMW apparently never learned. If you pick a fight, you had better be capable of taking care of yourself. Well, the R65LS looks like a fight-picker to me. With its bright orange quarter-fairing and downright sexy styling, it seems to boast of being the toughest—and fastest—kid on the block. But inside, the LS knows it really doesn't have the guts. Racetrack packaging and German prestige just can't make up for the rough, noisy, undermuscled engine. It isn't the slowest thing on two wheels, but there's no way the BMW can out-punch its hi-tech Japanese peers.

But the R65LS is an easy bike to ride and it does look hot. For some, that might be enough to justify buying it, but not for me. I don't want to be caught riding the Beemer when its bluff gets called.
—Ron Lawson

BMW R65LS



SPECIFICATIONS:

IMPORTER: BMW of North America, Inc.
Walnut and Hudson Streets
Norwood, New Jersey 07648

CATEGORY: street

SUGGESTED RETAIL PRICE: $3995

ENGINE

Type	four-stroke horizontally-opposed twin
Valve arrangement	pushrod-operated overhead valves
Bore and stroke	82.0mm x 61.5mm
Displacement	649.6cc
Compression ratio	8.2:1
Carburetion	two 32mm Bing constant-vacuum
Air filter	disposable paper element
Lubrication	wet sump
Starting system	electric only
Ignition	transistorized breakerless, single coil
Charging system	12-volt; alternator, voltage regulator, rectifier

DRIVETRAIN

Clutch	dry, single-plate
Driveshaft-to-rear-wheel	spiral-bevel gears; 3.556:1 ratio

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	4.401	15.650	4.9
II	2.860	10.170	7.5
III	2.071	7.364	10.4
IV	1.669	5.935	12.8
V	1.499	5.330	14.3

SUSPENSION/WHEEL TRAVEL

Front	36mm stanchion tube diameter/6.3 in. (160mm)
Rear	3-way adjustable spring preload/4.5 in. (114mm)

BRAKES

Front	dual single-action hydraulic calipers, 10.3-in. (260mm) discs
Rear	drum, single-leading shoe, rod-operated

TIRES

Front	3.25H18 Continental RB2
Rear	4.00H18 Continental K112A

DIMENSIONS AND CAPACITIES

Weight	417 lbs. (189kg)
Weight distribution	44.8% front, 55.2% rear
Gross vehicle weight rating (GVWR)	878 lbs. (398kg)
Wheelbase	55.5 in. (1410mm)
Seat height	32.0 in. (813mm)
Handlebar width	24.5 in. (622mm)
Footpeg height	12.0 in. (305mm)
Ground clearance	5.4 in. (138mm), at centerstand
Steering head angle	28.0 degrees from vertical
Front wheel trail	3.78 in. (96mm)
Frame	tubular mild steel, double front downtubes
Oil capacity	2.6 qt. (2.5*l*)
Fuel tank	steel, 5.5 gal. (21.0*l*), including 0.5 gal. (2.0*l*) reserve
Instrumentation	speedometer, odometer, tripmeter resettable to zero, tachometer,

PERFORMANCE

Fuel consumption	35 to 50 mpg (15 to 21 km/*l*)
Average Fuel consumption	44 mpg (70 km/*l*)
Range, maximum	193 to 275 miles (311 to 442km)
Range, reserve only	18 to 25 miles (29 to 40km)
Speedometer error, 30 mph indicated	29 mph actual
Speedometer error, 55 mph indicated	54 mph actual
Best 1/4-mile acceleration	14.153 sec., 92.40 mph (149 kph)
Top speed (calculated)	109 mph (175 kph)
Stopping distance from 30 mph	35 ft. (11m)
Stopping distance from 60 mph	138 ft. (42m)

WARRANTY: 12 months unlimited mileage

AVAILABLE COLORS: Henna Red or Polaris Metallic Silver

All weights and measurements are taken with machine unladen and fuel tank empty

COMPARATIVE TEST DATA:

Make & Model	Quarter-Mile, sec/mph	Top-Speed, mph	Weight, lbs	Stopping Distance From 60 mph, ft.
BMW R65LS-'82	14.15/92.4	109	417	138
BMW R65-'81	14.16/92.1	109	423	133
BMW R100RS-'81	13.48/98.4	127	492	145
Kawasaki GPz550-'81	12.97/101.7	119	449	149
Suzuki GS450S-'80	14.09/92.5	100	397	127
Yamaha XJ650-'81	13.19/102.4	125	476	NA

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Special qualifiers for Out-of-State Amateur Entries contact:
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Lancing, MI 48906
517-321-4351
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Pontiac, MI 48057

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At Yamaha, we have the know-how to get you exactly where you want to be, looking exactly the way you want to look.

If you're into serious touring take our untraditional Virago 920 with its color coordinated X-1 Fairing and Lowers. A totally unexpected design, styled by the wind and for the wind. No other fairing comes close to the X-1's aerodynamic performance or ultra-futuristic look.

Keeping in step with the Yamaha style are the X-1 Saddlebags. So well designed you won't even notice them. They're color coordinated to your bike, have 900 cu. in. of storage space each,

and are made from injection molded, high impact ABS Black plastic. Combine all this beauty and grace with any of our brilliant chrome accessories, or build your own look from the wide array of accessories available at your Yamaha dealer.

Another way to get the look you want is with our dramatic Midnight Black Leather Jacket, one of many that look as good off the road as on. Add more of our extensive mens and womens line of sweaters, gloves, shirts, helmets and other accessories, and we guarantee you'll be the lure of the tour.

No ifs, and, or buts.

HOW TO DRESS FOR DIRT AND CLEAN UP AT THE FINISH

Yamaha has everything it takes to make you a hit when you hit the dirt. Like our YZ250 Motocross bike, built to leave the competition in the dust, and you at the finish. First.

Like our Genuine Yamaha gear. From Team Jerseys, Riding Pants, Goggles, Visors and Face Masks, to Shields, Team Bags, Belts and more. Top quality, top styling and top-of-the-line. Just what you need to put on your race face. Plus a whole line of motocross accessories for those who aren't in competition, but really dig a day in the dirt. They're a little more economical

but still sport all the spirit.

For the adventurous Tri-Motoer we have our sturdy Front and Rear Carrier, Trailer Hitch and more.

And to keep any Yamaha in top condition, we have a complete line of oils, lubes and

cleaners. From motocross clothing to motorcycle care, your Yamaha dealer provides you with the finest products money can buy. Because that's what it takes to keep you and your Yamaha in winning style.

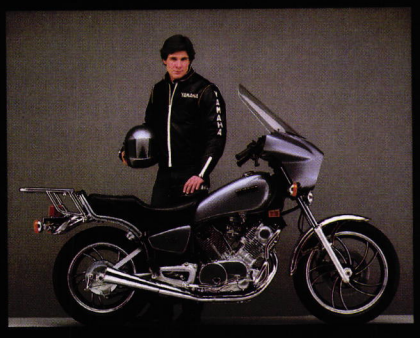
YAMAHA

THE WAY IT SHOULD BE.

HOW TO GET THE CAFE SET TO EAT THEIR HEARTS OUT

Yamaha has a lot of different ways a Cafe rider can go. For the real sport who is into touring, there's the Seca 750 with our futuristic color coordinated Sport Fairing. It's designed for top performance and is aerodynamically efficient. To complement its lean and sporty looks add a Chrome Engine Guard, Soft Saddlebags, and Tank Bag, for a lean racy combination.

If it's a commotion you want to cause, our Star Silver Virago 750 with the sensational Sport Fairing accessory package is the way to do it, This spicy combination is bound to turn heads in every direction. And it's only one of the many mix and match accessory combinations available at your Yamaha dealer.



But there's more ways to get where you're going than with hardware. Our soft, top-of-the-line Maxim Jacket is another. It's the most functional piece of touring equipment you can own. And the most fashionable. Next to that are a whole variety of quality T-Shirts, Sweaters, Gloves and Snell, DOT and SHCA approved helmets. At Yamaha, we give you a lot of different ways to enter the Cafe Society. In high style.

HOW TO GET BACK AND FORTH WITH "OOHS" AND "AAHS"

There are plenty of ways you can drive up with dash, no matter which commuter/tourer path you choose. Our mix and match accessory line lets you pick a look that suits your style.

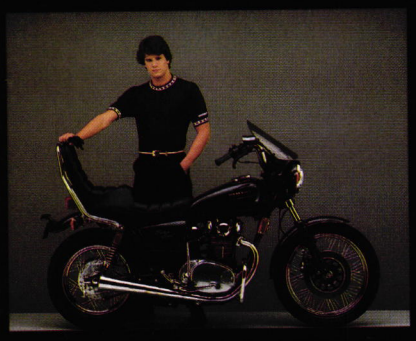
The traditional commuter will flip over our striking Silver Maxim 550, with the dramatic clear acrylic windshield, lightweight Sofpack Saddlebags, touches of brilliant chrome and black epoxy detailing. It has all the power you need to dart in and out of wherever you want to go.

For the tourer who is ready to roll, our Black/Blue Maxim 650 with the unexpected X-1 Fairing, Saddlebags, and chrome accessories may be the way to go. It blends form, function and style into one powerful package.

We even had the economy conscious in mind with our sizzling Blue Exciter 250, with Travel Trunk and Midi Shield. It's a great way to start somebody on their way to becoming a Yamaha fanatic. Another way

is to show up in some of our Genuine Yamaha Apparel. From Riding Suits to Sweaters, Gloves to Helmets, Competition Jackets to Sweatshirts, your Yamaha dealer has it all. Everything you need to stand out, even when you're sitting down.

HOW TO ACCESSORIZE YOUR NEXT POWER TRIP



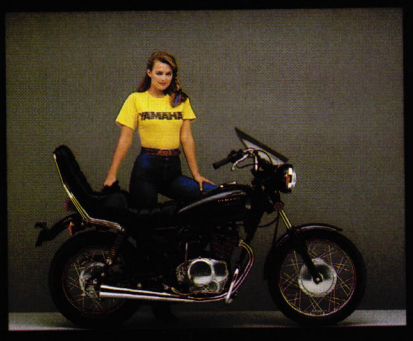
There are a lot of ways to do it, and your Yamaha dealer knows them all. He'll show you endless combinations so you can build the exact image you're after.

With our Ruby Red Maxim 1100 we've gone out of our way to keep everyone out of yours. This awesome beauty provides a protective Mini Cruiser Shield, chrome up one side and down another, and a Black Epoxy Powder Coated Sissy Bar with Backrest. It's bound to psyche out even the toughest counterpart.

For the cruiser on a smaller power trip, there is our vertical twin cylinder XS 650 with acrylic Mini Cruiser Shield and loads of chrome accessories. It's todays version of tradition with a lot more vvrroom.

And for the rider who is just getting his boots wet, there's our economy XS400SJ, with clear Mini Cruiser Shield, Sissy Bar and Tall Seat: It's the perfect way to enter the streets for the first time.

Combine any of our bikes with any of our extensive line of Genuine Yamaha Apparel and



you've got just the image you want. With Jackets from leather to satin, T-Shirts from plain to fancy, Gloves from warm to cool, and accessories from top to bottom. We've got all you'll ever need to look like the king of the street set.

WE DISCOVERED A WAY TO IMPROVE THE HERITAGE 650.

Most people would have said that it couldn't be done. After all, the 1982 Heritage 650 has got quite a lot going for it.

The engine is our classic, reliable vertical twin. Combine that with the typically gorgeous Yamaha styling and you really couldn't ask for more.

But you could ask for less. So, from now until April 30th, your participating Yamaha dealer will sell you a Heritage 650 for the ridiculously low price of $1999.* And he's got equally terrific deals on Yamaha 650 Specials and Special IIs.

Participating dealers are also offering deals on accessories, like 20% off tall custom cruiser seats and sissy bars or luggage racks.

Of course, the supply is limited. So we suggest you get right down to your Yamaha dealer and take a look at all the 650 twins. Especially the Heritage.

The bike we improved with a felt pen.

THE YAMAHA 650 TWIN SALE.

*Manufacturer's Suggested Retail Price for XS650SJ. Actual prices set by dealers. Taxes, license, freight, options and other dealer charges extra. Prices may change without notice.

PRODUCT EVALUATION:

AXO Motocross Boots

Genetic engineering gets underfoot.

• It was a brief affair that motocross had with plastic boots. They hit the market and achieved immediate hot-set-up status, but then fell out of favor almost as quickly. Disadvantages in durability, flexibility and price spelled the end for plastic's era of popularity and threw motocross back into the leather age.

But a new kind of hybrid motocross boot has resulted from the short intermingling of plastic and leather. The AXOs are leather boots that use plastic-boot features in an attempt to hit on the best of both worlds. At the top of the list of plastitech features is the large plastic guard that encases the front of each boot. Shin guards are nothing new, but the AXOs have something more like impenetrable plastic shin bunkers that can protect your legs from the most hostile enemy rock attack. The plastic starts at the top of the foot and climbs almost all the way to the knee—about two inches higher than most boots. Ample padding under the guard means that flying rocks are the least of your lower-leg worries.

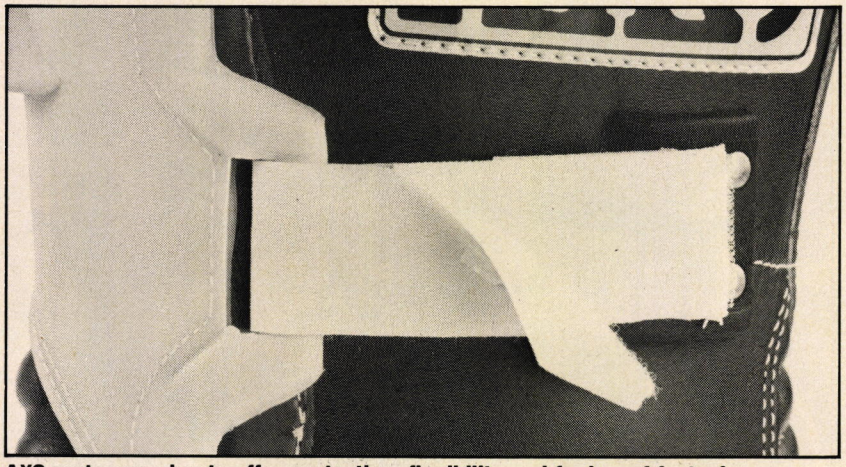
Another problem you *won't* have is immobility. In spite of having most of the protection of plastic boots, the AXOs still offer the pliability of leather. Developing a feel for the shifter and brake lever is no more difficult than in any other MX boot. In fact, the AXOs are more flexible than most, primarily due to a large vinyl insert above the heel. The insert gives the AXO-booted foot up-and-down mobility and serves to shorten break-in time. Two hours of casual riding is enough to teach the AXOs to bend in most of the right spots.

Side-to-side mobility is also free, although the boots offer adequate ankle support. Plastic boots often have been criticized for offering *too much* ankle protection, eliminating the ankle's ability to absorb side impacts. A twist on the foot could be transmitted directly to the knee, where more permanent damage easily could result. The AXOs offer enough mobility to leave this problem behind as the property of the all-plastic boot.

An idea that AXO *did* carry over from the plastic world is the use of replaceable parts. Instead of the easily damaged metal clasps common on leather boots, the AXOs use three velcro straps that, if broken, can be replaced for $3 apiece. Each strap wraps through a slot on the shin guard and then folds over to attach to itself, creating a simple and reliable fastening system. If the velcro clogs with mud and fails to make a secure connection, a scrub down with a stiff-bristled brush will provide an easy cure.

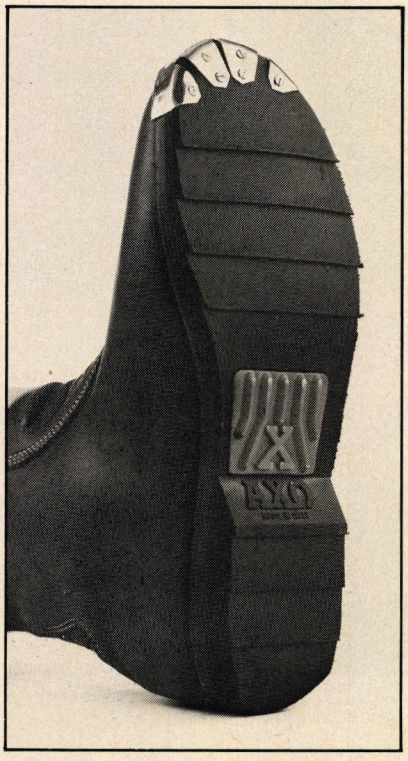
Not so easily fixed is the awkward way the AXOs are designed to fit. Unless you have the world's skinniest legs, you'll probably find the shin guard to be curved much too sharply. It presses on both sides of the leg while barely touching in front. Pulling the three fasteners tighter simply makes the boot press more in the wrong spots and does little to correct the shape of the plastic. On the inside of each calf, in particular, the AXOs can rub until they produce sore spots. A thick pair of socks will eliminate the trouble, but a better solution would be a less-curved shin guard and perhaps more than three fasteners, to make the boot conform to the shape of the leg more closely.

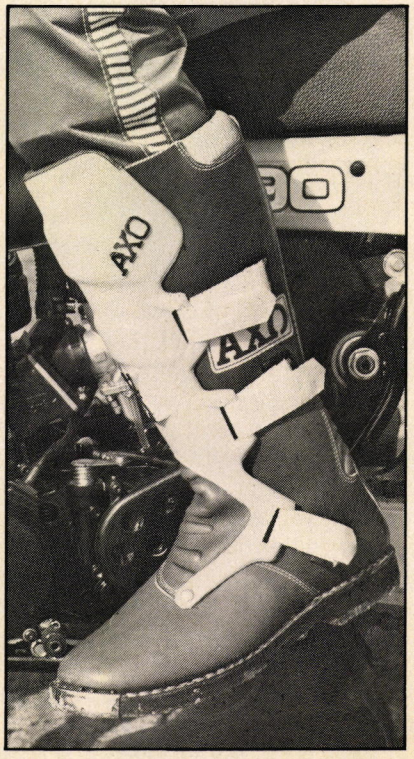
In spite of these two sore points (one for each leg) the AXOs rate as excellent boots and prime examples of selective breeding. The best assets of both sides of the family are combined, and at a suggested retail price of $139 even the price falls between the plastic and leather camps. You can obtain AXOs from Motocross Fox, 520 McGlincy Lane, Campbell, California 95008; (800) 538-6854. —*Ron Lawson*



AXO motocross boots offer protection, flexibility and foolproof fastening

A ready-to-race motocross breed of leather and plastic bloodlines.





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YOSHIMURA EXHAUST SYSTEMS. A CUT ABOVE.

When it comes to high performance exhaust systems, nobody delivers like Yoshimura...a fact that's proven daily on the streets and racetracks of the world.

The all-new Yoshimura Series VII Exhaust Systems are not just street-legal versions of our Superbike racing pipes. They are so new, so thoroughly designed and engineered, that our U.S. and European Race Team exhausts will THEMSELVES be variations of these blistering hot street pipes.

Just how trick are they? Check this out. Equi-length headers measured and cut to the hundredth of an inch. Smooth, precision-bent curves. Yoshimura's exclusive Dyno-Flow collector for the smoothest blending of exhaust impulses. And our special expanded, twin-swirl, all-metal baffle (competition baffles also available) with no fiberglass packing to ever replace. Series VII Exhaust Systems are available in either the all-new reflective-black Kal-Gard finish, or our brilliant durable chrome.

For a proven exhaust system that's a cut above, get the competitive edge, get a new Yoshimura Series VII. All Yoshimura Series VII exhausts are $195 Black and $210 Chrome. Send $4 for our new 1982 Catalog, $7.50 for a T-shirt (red or white, + $1.25 for shipping, California residents add 6% tax, sizes S-M-L-XL) to: Yoshimura Research and Development of America, 4555 Carter Ct., Chino, CA 91710. Visa and MasterCard accepted. (714) 628-4722. Telex 182956. Eastern Distributor: Yoshimura East, 26 Industrial Road, West Milford, NJ 07480. (201) 728-1770.

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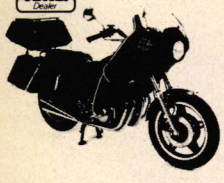

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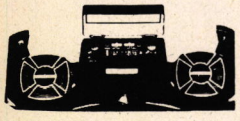

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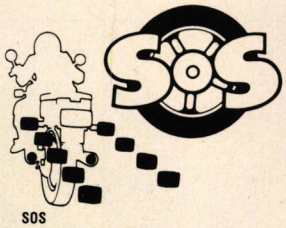

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COMPARISON TRACK TEST:

When you swing a leg over any 1982 Open-classer, you're going to experience the most that motocross machinery has to offer. Open-class MXers always have had the most. They have the most size, they cost the most money and above all, they grind out the most power. And this year they have even more of the most. All three of Japan's Biggest have stepped over the 450cc line and now stand at the edge of the half-liter mark. And as the bikes climb in potency, the battle to become known as the machine that has the *most of all* becomes even more intense.

In numbers, at least, the new Yamaha appears to have the most of the most. Only two years after the introduction of the 465, Yamaha once again is straining the upper edge of the Open class with a monstrous 490. In displacement, the YZ out-measures any motocrosser Japan has produced since Yamaha's own SC500. And in rear suspension travel, the YZ out-strokes the others with its new Monocross rising-rate system. The Monocrosser stretches 12.8 inches for a new Japanese production record.

The Pro-link isn't far behind, at 12 inches even. On the Honda, though, it's the engine that has received the most attention. It has grown dramatically, displacing over 40cc more than last year's CR450 (which actually measured 431cc). Reworking a machine only one year after its introduction is a very un-Honda-like move. Hondas characteristically go through several years of production before seeing any major changes. The '81 Open-class CR had potential, but is was buried under a multitude of small flaws that made it the year's nearest miss. With a larger engine, a lighter frame and rethinking in the low-reliability areas that hindered the 450, the CR480 has been lifted from almost status to contender for the most.

Last year's champion returns to the front with little more than a rub-down to do battle with the revamped and bored-out competition. The Suzuki RM465 battled knob-to-knob with the Yamaha in CYCLE GUIDE's Open-class comparison last year, and emerged narrowly on top. With a proven winner in its corner, Suzuki didn't have to shove the 465 through the change mill. Instead, concentration on the big RM's weak points has produced an improved, but not redesigned, Open hopeful. A little more top-end power, a stronger gearbox with one less ratio, and attention to what was already considered one of the hottest suspension systems in the business, and the Suzuki has been booted into combat to defend its title.

With Kawasaki forfeiting the battle by not returning the KX420 to the arena, it's a three-way contest for the title of Japanese Motocrosser with the Most. And as the Honda, Suzuki and Yamaha rocket off the line in a mega-horsepower comparocross, several facts become clear. As a group, these machines have the most yet offered Open-class motocross. But one of them has more.

Honda CR480R vs. Suzuki RM465Z vs. Yamaha YZ490J

Matching the motocrossers with the most in an Open-class comparocross.

BY RON LAWSON

Continued

Open-Class Comparison: Tech Inspection

Engine:

Top End: All three of the motors in these Open bikes are oversquare—that is, each has a bore that is wider than its stroke is long. The RM's displacement is unchanged from last year's, but Yamaha has punched-out the YZ 2mm to 87mm, and the Honda now has an 89mm bore, 4mm larger than on the '81 CR450R.

A carburetor venturi of 38mm is common to all three bikes; but while the Honda's Keihin and the Yamaha's Mikuni both use conventional round slides, the Suzuki's Mikuni has a rectangular slide that's claimed to sharpen engine response at small throttle openings. The RM also differs from the CR and YZ in its use of eight fiber petals in its reed-valve block rather than six steel petals.

The Honda's basic port layout is the same as the 450's, with a single oval inlet port and a small boost port. The booster is timed to open later than the 450's, however, and the four main transfers and the exhaust port all are timed to open a bit earlier. There is also a lower compression ratio and redesigned exhaust pipe to help broaden the CR's powerband.

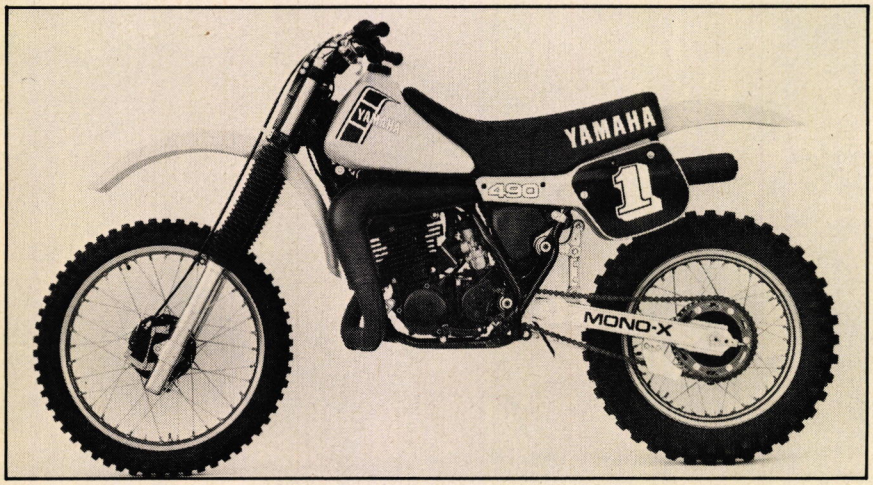
The 490 Yamaha's oval inlet port opens earlier than the 465's did, and the boost port is now wider and bridged to prevent barrel distortion. The four transfer ports and the single exhaust port are unaltered. Yamaha claims that this porting, along with a YEIS canister on the intake tract and a new exhaust pipe, improves low- and midrange power. But that increase comes at the expense of top-end, since the power peak is now 1000 rpm lower.

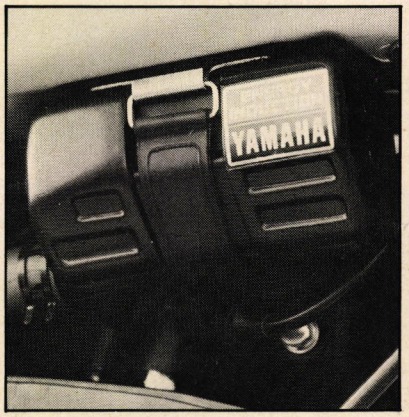
The RM465's single inlet and six transfers have the same timing as on last year's bike; but the exhaust-port's upper edge is 0.5mm higher to increase maximum revs and raise the Suzuki's power peak.

Bottom End: The YZ uses the same full-circle crank and external-flywheel magneto as before. The CR also uses an external flywheel, but Honda has cut 1.9 pounds from the crankshaft to give the 480 even quicker throttle response than the 450 had. Suzuki has taken the opposite approach by *adding* weight to its crank while retaining the same internal-rotor magneto used in '81.

Drivetrain:

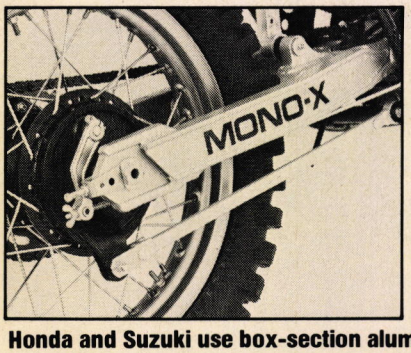
Primary Drive: All three of these Open motors use straight-cut primary gears now that Yamaha has finally abandoned quieter but less-efficient helical gears. The Honda's clutch uses a wider plate design resurrected from the very first '73 CR250 Elsinore, along with heavier springs installed under more preload. All of this is intended to eliminate the clutch slippage that sometimes occurred on the CR450R. The Yamaha's clutch now uses seven aluminum drive plates rather than six steel ones to save weight while increasing friction area. The plates also have wider tangs that engage with correspondingly wider slots in the clutch basket to prevent tang breakage. The RM's clutch is unchanged apart from the deletion of the pushrod adjuster from the pressure plate and the use of a single long pushrod rather than two

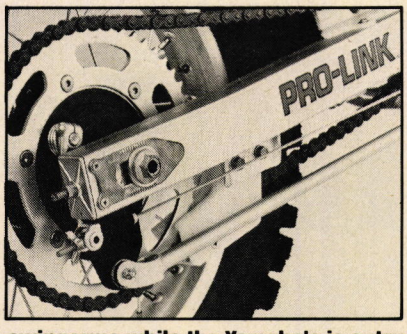


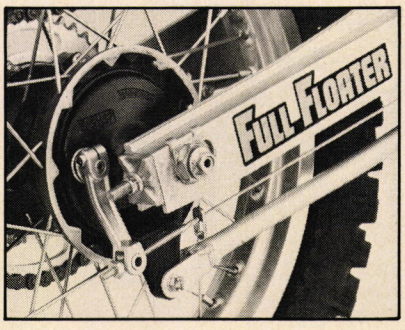


YEIS finds a new home on the YZ490

250 tricks make it to the Open class.







Honda and Suzuki use box-section aluminum swingarms while the Yamaha's is extruded

The differences between Open-classers are more than decal-deep.

shorter rods.

Gearbox: Both the RM and the YZ have four speeds, one less than on last year's 465s. Both companies claim the change allows the use of wider, stronger gears to cope with the extra power without a redesign of the engine cases. The Suzuki's first gear has the same ratio as last year's while the remaining three have higher-speed (lower numerical) ratios. Heavier shafts and gears are mainly responsible for the new RM weighing the same as the '81, even though some weight has been pared from other areas of the bike.

Yamaha, on the other hand, in effect simply removed last year's first-gear ratio to come up with the 490's four-speed box. First through fourth are now the same as second through fifth on the 465, although the gears themselves are wider and the layshaft has a larger outside diameter in its midsection. And to improve shifting, the YZ uses a lighter shift-return spring and has less clearance between the selector mechanism's various pieces.

Honda saved weight on the CR by drilling and plugging the countershaft and shifter shaft. Longer engagement slots in first and third gears also reduce weight as well as ease gearchanging. And the engagement dogs on third and fourth have been undercut for more positive engagement once the shift has been completed. A redesigned shift-drum locating boss helps prevent the frequent engine-case breakages that occurred on the CR450, as well as further smoothing the shifting. The kickstarter arm is longer and attached with a single bolt threaded into the end of a stronger kickstarter shaft rather than by the previous pinch-bolt clamp that sometimes fouled the clutch cover.

Final Drive: The Honda's final-drive ratio is the same as the 450's, while both the Yamaha and the Suzuki use rear sprockets that are two teeth smaller than in '81. Overall, though, the 490 has considerably higher (lower numerical) gearing than either the RM or CR.

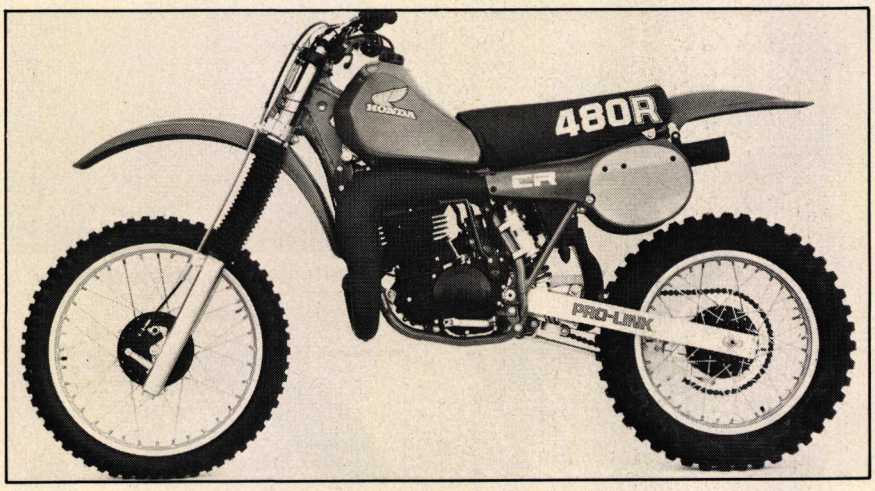
Frame:

A single-downtube frame is used on all three bikes, but the Honda's engine cradle begins much higher than the others to clear the central-exit exhaust pipe. The CR also has the steepest steering head angle and the shortest trail of the three (reduced almost 2.5 inches and one-half inch, respectively, compared to the 450) to quicken its steering geometry. The Suzuki's frame is virtually unchanged except that it now is welded by automatic machine rather than by hand. The steering head is fractionally steeper than in '81, but only because the front tire has a lower profile. The YZ's frame also has the same steering geometry as it had last year, but there is almost one inch more wheelbase because the new box-section aluminum swingarm is longer. The wheelbase was extended to reduce front-wheel lofting and increase high-speed stability.

All three bikes use tapered-roller steering head bearings. The Honda, however, has its rollers inclined more vertically than on previous CRs to make the bearings rotate less freely, giving the same basic effect as a steering damper. The CR's steering stem also is narrower in its center section to reduce weight. The Honda no longer uses built-up steel footpegs. The new pegs are cast-steel and mounted 10mm higher and farther forward than before, and their bottom locating bolts have been repositioned to prevent snagging in turns.

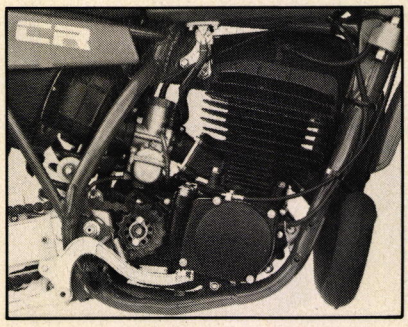
Suspension:

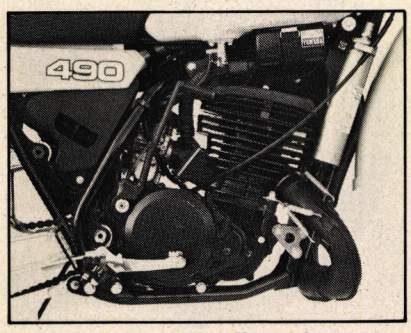
Front: Kayaba builds the forks for all three Japanese Open MXers. The units on

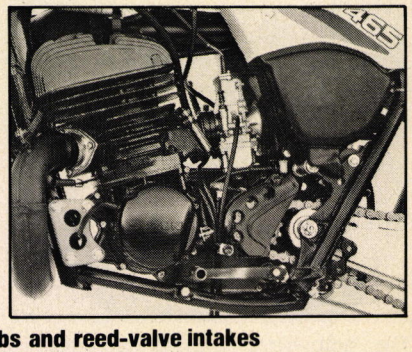


Vented Honda number plate

By-product of the liquid-cooled age.







All three motors have much in common: oversquare bore/stroke dimensions, 38mm carbs and reed-valve intakes

But when the flag drops, the similarity stops.

Continued

the RM and the YZ, in fact, are very similar and use sliders made from straight tubing with the axle-mount bosses heat-shrunk into place. The CR has a more-common type of forged-aluminum fork.

The CR480 has 43mm stanchion tubes (as do the YZ and RM), 2mm larger than the 450's, but the most significant change is the inclusion of three-way-adjustable compression damping. A slotted adjuster in the base of each fork slider varies the compression damping, but like most conventional forks, the rebound can be altered only by changing oil viscosity.

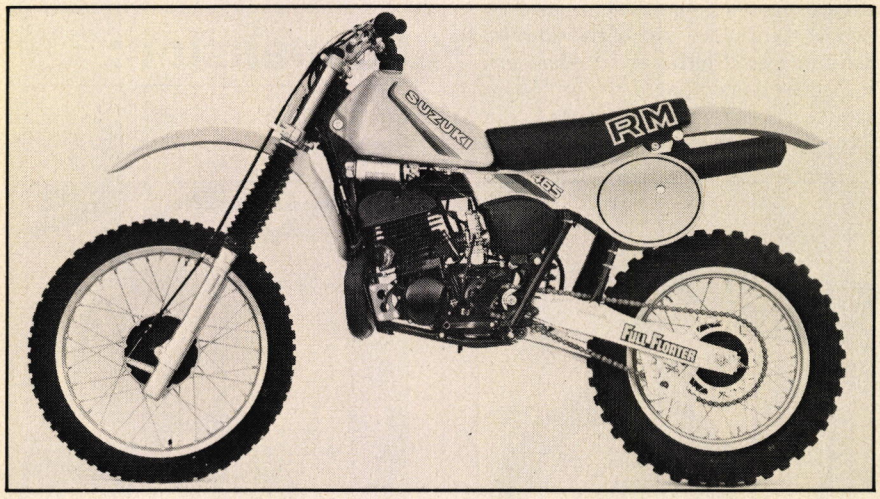
Rear: All three bikes use linkage-type rising-rate rear suspension systems, but each design is vastly different from the other two. The Suzuki's Full Floater system is unchanged from '81 apart from improved oil seals in the ends of its vertical links. The horizontal rocker arm still rotates on needle rollers with Heim joints at every other point of articulation. The single Kayaba shock is mounted vertically with its lower end bolted to the swingarm just behind the pivot and its upper end connected to the forward end of the rocker. Compression damping has been upped 20 percent since last year; and although the shock spring is 5mm longer, it has the same rate and preload as before. Rebound damping is still four-way adjustable with a thumb wheel at the shock's upper end. A less expensive extruded-aluminum remote reservoir replaces the '81 bike's aluminum forging.

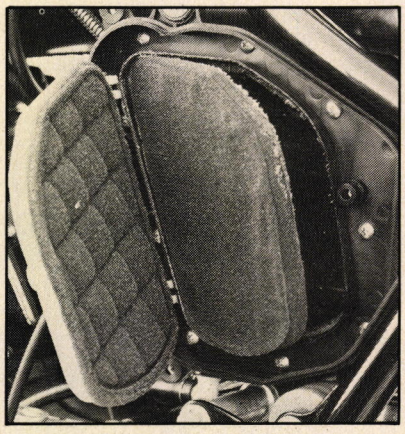
The Honda retains its Pro-Link design, but the new and stronger box-section aluminum swingarm is longer and has an in-line axle rather than one with an upward offset, like on last year's CR. Consequently, Honda had to alter the linkage geometry and spring rate to achieve the same basic progression curve and wheel rates. The concept is unchanged, though, with the upper end of the Showa shock (which is 5mm shorter) bolted to the frame just behind the tank. The shock's lower end is affixed to the center of a short bell crank which has one end connected to the swingarm and the other to the frame via a short linkage rod. The new shock also features a four-position adjustment for compression damping rather than for rebound. Honda claims that having adjustable compression—which can be varied to suit different tracks, riding styles and rider weights—is more useful than adjustable rebound, which needs changing only to suit different springs and preloads.

There's a new extruded-aluminum swingarm on the YZ, too, which is connected to a shorter shock than on the 465 by a vertical link and a bell crank. And the Yamaha has separate adjustments for *both* kinds of damping—24 settings for rebound and 10 for compression.

Wheels:

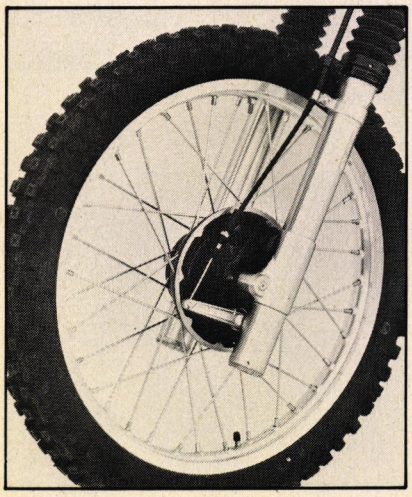
Both the Honda and the Yamaha use double-leading-shoe front brakes, while the Suzuki stays with a single-leading-

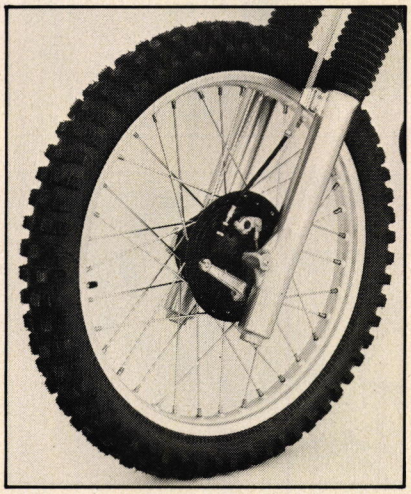


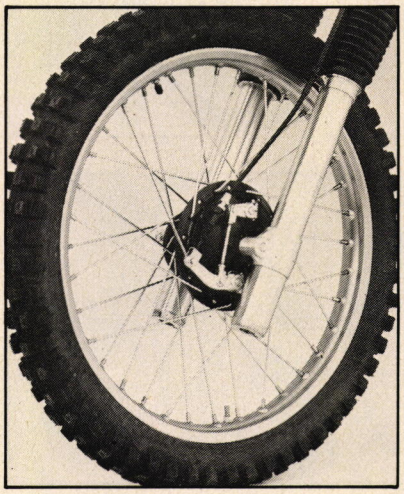


Access to the RM's filter is difficult

For both rider and dust.







The Japanese Open-class machines give you three different ways to go Kayaba-crossing

And a choice between single- and double-leading-shoe front brakes.

shoe arrangement. The RM's hubs are pretty much full-width designs that use straight-pull spokes. The Yamaha and Honda both have more-conventional semi-conical hubs, but the angles of their spoke flanges have been changed slightly to permit a less-radical bend at the hooked end of the spokes.

All three rear brakes are of single-leading-shoe design. The Honda uses magnesium brakes shoes and a new labyrinth seal in its backing plate to deter mud entry. The Honda also has a steel torque arm while the RM and YZ have aluminum arms. The RM and CR use a straight-pull cable to actuate the rear brake, supposedly because it weighs less than a steel rod like the one used on the Yamaha.

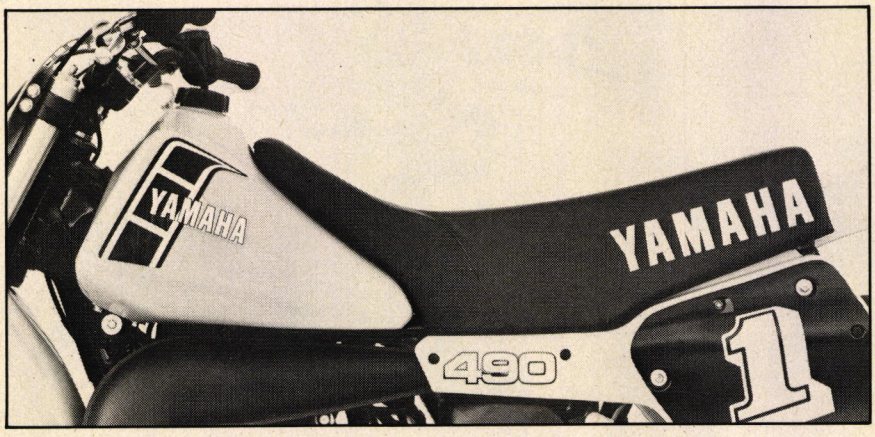
Details:

The Honda has an enlarged airbox and a slightly smaller conical filter to prevent the element from touching the sides of the box. The foam element is held together with improved glue that prevents the separation problems that occurred on last year's CRs. The rubber boot between the airbox and carburetor also is larger in volume and made from lighter, more rigid material. The Yamaha retains the 465's dual-stage conical filter, but in a larger airbox that allows more airflow and easier filter installation. The airbox access cover now is secured by a single bolt like on Yamaha's IT enduro models. The outer flat elements of Suzuki's twin dual-stage air-filter system are thicker and larger to insure a better seal around the edges of their support frames.

The Honda and Yamaha have new gas tanks, the Honda's being shorter, taller at the front and narrower at the rear to allow the rider to slide further forward. The Yamaha's tank is wider and lower at the rear to make room for an extension of the seat that now runs up almost to the gas cap to provide extra rider protection.

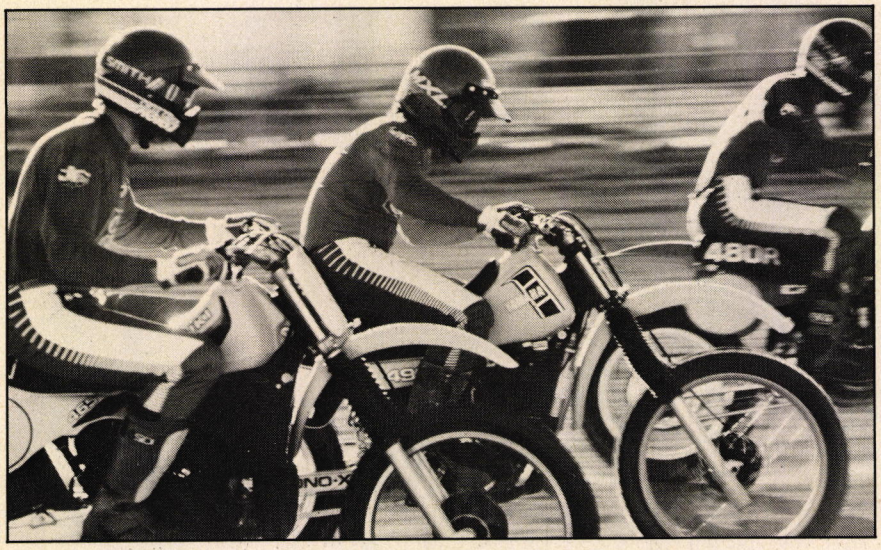
The CR has its control-lever pivots 10mm further from the handlebar to allow two-finger operation without the lever blades hitting the other fingers. The Suzuki also has new levers and two-piece brackets that are hollowed-out to save weight. The Honda and Suzuki both have a 90-degree cable-bend built into their twistgrip housings, but the Yamaha retains the "Gunnar's Gasser"-type of revolving-wheel throttle.

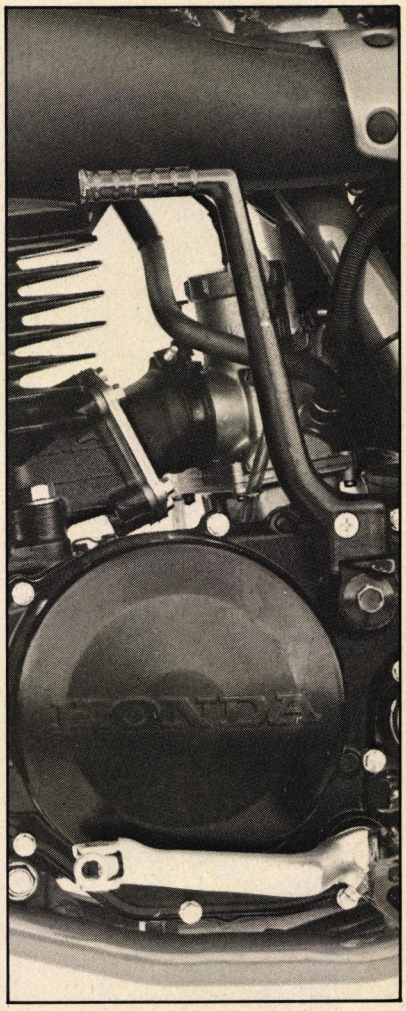
All three bikes have exhaust systems that are different in some way than last year's versions. The Suzuki's pipe is identical in shape but is made from thinner metal to reduce weight. The Honda's pipe also saves some weight through the use of lighter mounting brackets. And the CR's head pipe is routed higher so it won't hit the ground as easily as the 450's did. The YZ has a smaller-volume pipe with a longer silencer *and*, to increase back-pressure for better top-end power, an additional mini-muffler between the expansion chamber and the main silencer.



The 490 Yamaha seat climbs all the way from the rear fender to the gas cap

So its rider can do the same.





Left-sided Honda kickstarter

Only the shifter is right (left).

Continued

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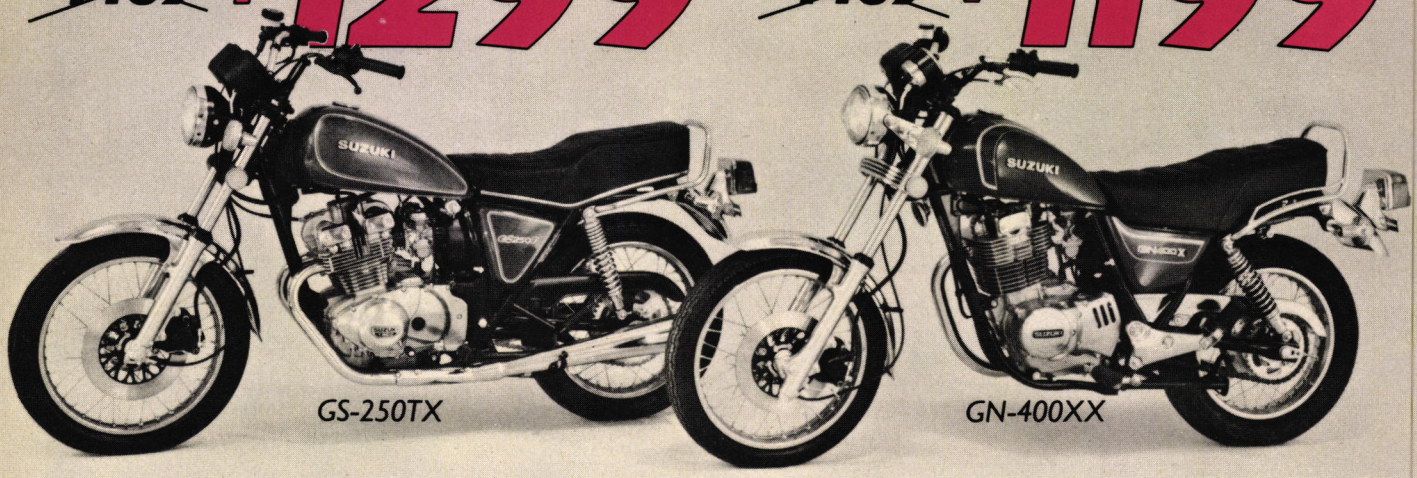
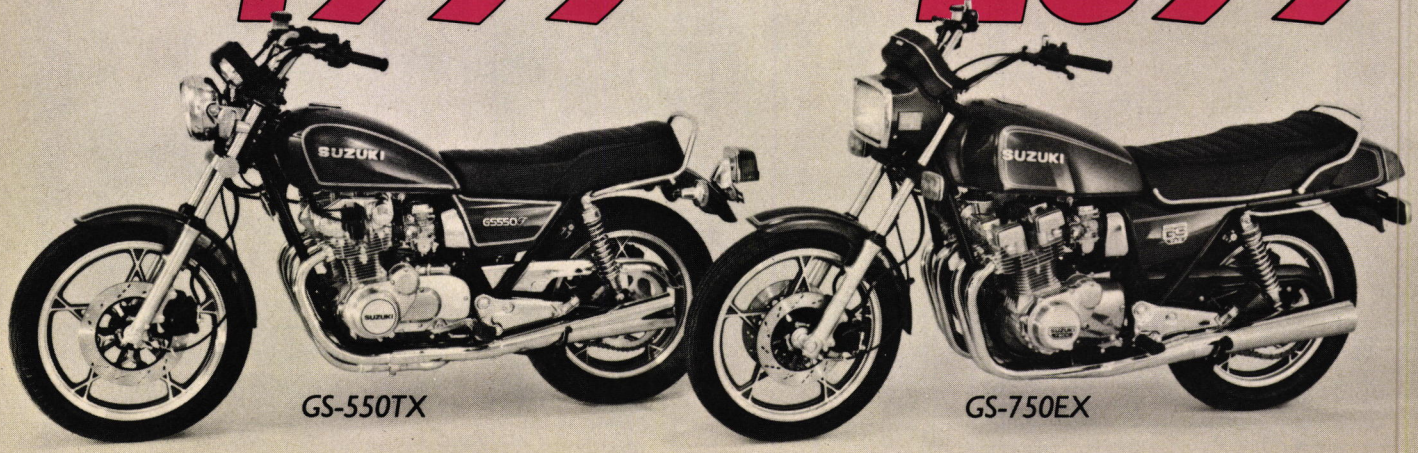


GS-250TX GN-400XX

~~$2399~~ **$1999*** ~~$2999~~ **$2699***



GS-550TX GS-750EX

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GN-400TX

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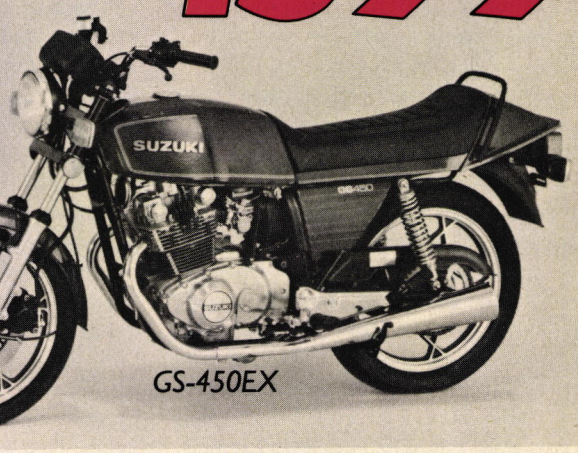
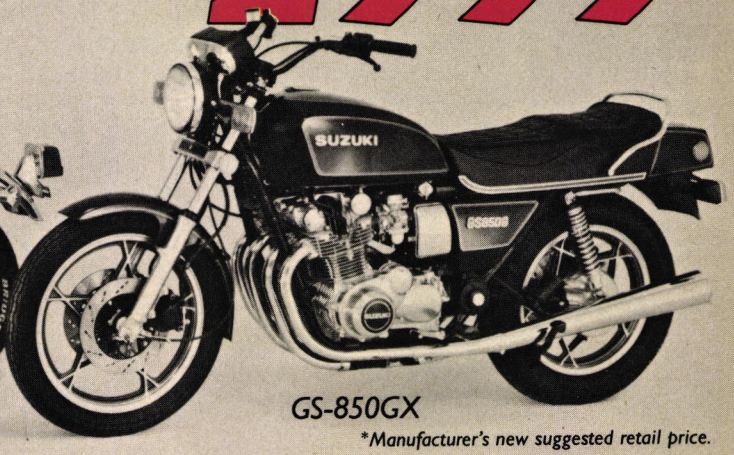


GS-450EX

~~$3099~~ $2799*

GS-750LX

~~$3349~~ $2999*



GS-850GX

**Manufacturer's new suggested retail price.*

The Open-Classers: Which Will Win?

• Honda and Yamaha both have put their Open-class entries through an extensive program of changes with one purpose in mind: to displace the little-changed Suzuki as big-bore king. But the way the CR and YZ go about that mutual task is totally different. And the differences become clear as soon as the gate drops in an Open-class match race.

All three machines make close to the same amounts of horsepower, but the horses are of totally different breeds. The Yamaha leaves the line with a grunt, and after that, you can forget there's a clutch lever on the left side of the handlebar, because you'll seldom need it. The power starts not far above idle and then builds staggeringly through the midrange. The Yamaha continues to pull even when it's screaming, but there's no need to play in the high-rev zone. Short shift the bike and you get lots of controllable power. No wheelies, no radical sideways swaps, just healthy acceleration.

The Honda's power is the flip-side of the YZ's. For a tenth of a second after you drop a CR's clutch, the nerve endings in the seat of your pants will be convinced that the machine is only a 250, or maybe the world's biggest 125. The motor revs quickly because of its light flywheel, but once the 480 grabs some traction all doubts that this is anything but an Open-classer—and a very fast one—are blasted away. The Honda is a powerful machine, and all that power hits hard. Riding it isn't difficult, but keeping the engine on top of its peak requires more concentration than chugging the YZ around the track. Once you learn to feather the Honda's clutch, you'll rocket out of the same turns that other big-bores take their slower-revving time about exiting. But stalling the 480 while braking is an ever-present problem. The light crankshaft doesn't have enough inertia to count out the risk of an over-zealous brake foot killing the motor *and* your chances of winning.

In terms of power delivery, the Suzuki stands right between the torquey Yamaha and the free-revving Honda. Suzuki started with the strong mid-range power of last year's 465 and added a few more horses to the top end. The result is the most usable power of the three machines. There is a point, low on the rpm scale, where the RM's power drops off, but there's no reason to fall that low during a race. The low end is as strong as most motocrossers will need. And the power does nothing but get stronger all the way up. The every-bike-for-itself dragrace will almost always see the Suzuki reach the first turn ahead of the others.

After the first turn, where the track becomes a rough, tricky straight, and high-speed stability becomes a vital attribute, the Yamaha will take the lead. Both the CR and RM lack the high-speed manners that fill the YZ rider with confidence. The 490 feels rock-steady all the way up to desert-racing speeds, while the other two are quick-handling animals that feel much more at home in a tight turn than wide open on a straight. As a result, the YZ rider can squeeze that extra bit of power out on the track where the others might slack off.

The Suzuki might regain the lead if the straight gets *really* rough and not just fast. All three machines have outstanding suspensions, and ranking them requires nit-picking. But the RM is nearly nit-free to start with. It has an any-track feel right out of the crate. Whether handling the rolling whoops of a sand course or the sharp edges of hard-packed adobe, the RM sucks the bumps out of the track with ease. Bottoming the Full Floater is possible, and the evidence is underneath the rear fender. But bending over and looking at those tire marks is the only way you'll be sure you've touched bottom. The Suzuki does nothing harsh. That goes for the fork as well. Even though the RM has the shortest fork travel of the three, you won't be able to tell that on a track. It works smoothly through all of its 10.8-inch stroke.

Both the Honda and the Yamaha have gone to externally adjustable compression damping in the rear, but unlike the YZ the Honda has no rebound adjustment control. The only way to alter the Pro-Link's rebound damping this year is to change the oil viscosity. Unfortunately, the CR has a tendency to kick up in the rear after landing or when hitting sharp edges. The now-fixed rebound rate seems designed for a lighter spring, but if anything, the CR already is undersprung. It can bottom harshly, and even where the terrain isn't too rough, occasionally riders have their feet knocked off the pegs because the CR is using so much travel—and ground clearance. The problem isn't enough to keep you from winning, but it's annoying that Honda has eliminated an easy way of making the Pro-Link work better. The Honda's compression damping settings are still a plus, though. They enable you to adjust the suspension according to how rough the track is. Any one of the four settings is useful for certain conditions, but we found number two was the best compromise for a wide range of terrain and riders.

Honda also equipped the front of the CR with externally adjustable compression damping. Overall, the Honda fork is vastly improved from last year. On any of its three settings it rates with the best Japan has to offer. Like last year, Honda is using Kayaba units, but the front of the 480 has more travel, is smoother and is larger in diameter than the 450's fork.

The YZ's fork also is top caliber, al-

though it could benefit from the incorporation of an adjustment like the Honda's. In stock form, it seems too ready to dive under braking while still feeling choppy over small ripples. It's possible to tune the fork with different oil levels and vicosities, but an ability to adjust rebound and compression damping independently would be a real advantage.

In the rear, the Yamaha suspension is the most adjustable system in the business. While the Suzuki has four-way adjustable rebound damping and the Honda has four-way adjustable compression damping, the YZ has 24 rebound settings *and* 10 compression settings. We explored the far reaches of both, and even played with the variety of available springs, only to wind up back close to the stock settings. The Yamaha works well as delivered but it takes strong will power not to play with the different settings to the point of doing more harm than good. All three elements (spring rate, rebound damping and compression damping) are interrelated, and a change in one is going to affect the other two. Time will teach the YZ rider how to work the Monocross's multiple personalities to his best advantage.

But the YZ begins to lose both the Suzuki and the Honda when the three bikes come out of the whoops and go into the tighter sections of the track. Here, it's time for the YZ rider to pay the price for all the confidence he enjoyed in the straights. The YZ weighs only four pounds more than the Suzuki and six pounds more than the Honda, but the scales in your arms will tell you the Yamaha feels much heavier.

The Honda is again on the other side of the Open-class fence. It's light handling and agile, and can slice through the turns with little rider effort. This contributes even further to the 480's 250-like identity. The Suzuki rates a close second in agility. Even though it's much quicker-handling, it feels slightly more clumsy than the Honda, but is still much easier to turn than the YZ. The Suzuki is the shortest of the three machines and suffers in broad, sweeping turn where it isn't satisfied to stay on one line. The Yamaha will regain some time as the turns get broader where its stability and its new-compound IRC tires—the best of the lot—can help offset its cumbersome handling.

As the three go into the final stretch of the match race, they're closer than ever. Each machine does something better than the other two. But there's still a winner: the Suzuki. It has the best suspension and the best power characteristics, and even in the categories it doesn't win, it's close. And on the track, that translates to faster lap times and more wins. So the machine with the smallest engine and the fewest changes remains on top. Surprised? We were. But that just shows the difference between changes and improvements. —*Ron Lawson*

Continued

Honda CR480R

SPECIFICATIONS:

IMPORTER: American Honda Motor Company, Inc.
100 West Alondra Boulevard
Gardena, California 90247

CATEGORY: motocross

SUGGESTED RETAIL PRICE: $2248

ENGINE

Type	two-stroke vertical single
Port arrangement	one reed-valve-controlled intake, four transfers, one booster transfer, one exhaust
Bore and stroke	89.0mm x 76.0mm
Displacement	472.8cc
Compression ratio (corrected)	6.7:1
Carburetion	one 38mm Keihin slide/needle
Air filter	washable oiled foam element
Lubrication	pre-mixed fuel and oil
Starting system	primary kick
Ignition	flywheel-magneto CDI
Charging system	none

DRIVETRAIN

Primary drive	straight-cut gears; 2.500:1 ratio
Clutch	wet, multi-plate
Final drive	#520 chain (5/8-in. pitch, 1/4-in. width); 3.857:1 (54/14) ratio

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	1.625	15.670	5.0
II	1.211	11.678	6.8
III	0.952	9.180	8.6
IV	0.792	7.637	10.3

SUSPENSION/WHEEL TRAVEL

Front	air-spring, 43mm stanchion tube diameter, 3-way adjustable compression damping/11.5 in. (292mm)
Rear	Pro-Link, 4-way adjustable compression damping, 10mm spring preload adjustment/12.0 in. (305mm)

BRAKES

Front	drum, double-leading shoe
Rear	drum, single-leading shoe, straight-pull-cable operated

TIRES

Front	3.00 x 21 Bridgestone Motocross M21
Rear	5.10 x 18 Bridgestone Motocross M22

DIMENSIONS AND CAPACITIES

Weight	232 lbs. (105kg)
Weight distribution	48.5% front, 51.5% rear
Wheelbase	59.3 to 60.6 in. (1506 to 1540mm)
Seat height	39.0 in. (991mm)
Handlebar width	32.8 in. (833mm)
Footpeg height	16.8 in. (427mm)
Ground clearance	13.5 in. (343mm), at engine cradle
Steering head angle	27.2 degrees from vertical
Front wheel trail	4.21 in. (107mm)
Frame	tubular chromoly steel, single front downtube
Fuel tank	plastic, 2.9 gal. (11.0*l*), no reserve
Instrumentation	none

PERFORMANCE

Top speed (observed)	83 mph (134 kph)

WARRANTY: none

AVAILABLE COLOR: red only

All weights and measurements are taken with machine unladen and fuel tank empty

Suzuki RM465Z

SPECIFICATIONS:

IMPORTER: US Suzuki Motor Corporation
3251 East Imperial Highway
Brea, California 92621

CATEGORY: motocross

SUGGESTED RETAIL PRICE: $2269

ENGINE

Type	two-stroke vertical single
Port arrangement	one reed-valve-controlled intake, six transfers, one exhaust
Bore and stroke	86.0mm x 80.0mm
Displacement	464.7cc
Compression ratio (corrected)	6.1:1
Carburetion	one 38mm Mikuni rectangular-slide/needle
Air filter	twin dual-stage washable oiled foam elements
Lubrication	pre-mixed fuel and oil
Starting system	primary kick
Ignition	internal-rotor magneto CDI
Charging system	none

DRIVETRAIN

Primary drive	straight-cut gears; 2.385:1 ratio
Clutch	wet, multi-plate
Final drive	#520 chain (5/8-in. pitch, 1/4-in. width); 3.357:1 (47/14) ratio

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	2.000	16.011	4.9
II	1.611	12.898	6.1
III	1.211	9.691	8.2
IV	0.955	7.642	10.3

SUSPENSION/WHEEL TRAVEL

Front	air-spring, 43mm stanchion tube diameter/ 10.8 in. (273mm)
Rear	Full Floater, 4-way adjustable rebound damping, 25mm spring preload adjustment/12.0 in. (304mm)

BRAKES

Front	drum, single-leading shoe
Rear	drum, single-leading shoe, straight-pull-cable operated

TIRES

Front	3.00 x 21 Dunlop Sports K490
Rear	5.10 x 18 Dunlop Sports K390

DIMENSIONS AND CAPACITIES

Weight	234 lbs. (106kg)
Weight distribution	46.9% front, 53.1% rear
Wheelbase	58.1 to 58.8 in. (1475 to 1494mm)
Seat height	38.0 in. (965mm)
Handlebar width	32.0 in. (813mm)
Footpeg height	16.9 in. (429mm)
Ground clearance	14.0 in. (356mm), at engine cradle
Steering head angle	29.3 degrees from vertical
Front wheel trail	4.80 in. (122mm)
Frame	tubular chromoly steel, single front downtube
Fuel tank	plastic, 2.4 gal. (9.0*l*), no reserve
Instrumentation	none

PERFORMANCE

Top speed (observed)	85 mph (137 kph)

WARRANTY: none

AVAILABLE COLOR: yellow only

All weights and measurements are taken with machine unladen and fuel tank empty

Yamaha YZ490J

SPECIFICATIONS:

IMPORTER: Yamaha Motor Corporation USA
6555 Katella Avenue
Cypress, California 90630

CATEGORY: motocross

SUGGESTED RETAIL PRICE: $2349

ENGINE

Type	two-stroke vertical single
Port arrangement	one reed-valve-controlled intake, four transfers, one booster transfer, one exhaust
Bore and stroke	87.0mm x 82.0mm
Displacement	487.5cc
Compression ratio (corrected)	7.0:1
Carburetion	one 38mm Mikuni slide/needle
Air filter	dual-stage washable oiled foam element
Lubrication	pre-mixed fuel and oil
Starting system	primary kick
Ignition	flywheel-magneto CDI
Charging system	none

DRIVETRAIN

Primary drive	straight-cut gears; 2.625:1 ratio
Clutch	wet, multi-plate
Final drive	#520 chain (5/8-in. pitch, 1/4-in. width); 3.143:1 (44/14) ratio

Gear	Internal gear ratio	Overall gear ratio	MPH per 1000 RPM
I	1.750	14.438	5.5
II	1.316	10.855	7.3
III	1.045	8.625	9.2
IV	0.833	6.875	11.5

SUSPENSION/WHEEL TRAVEL

Front	air-spring, 43mm stanchion tube diameter/ 11.3 in. (287mm)
Rear	Monocross, 24-way adjustable rebound damping, 10-way adjustable compression damping, 25mm spring preload adjustment/12.8 in. (324mm)

BRAKES

Front	drum, double-leading shoe
Rear	drum, single-leading shoe, rod-operated

TIRES

Front	3.00 x 21 IRC Motocross Z Mk II
Rear	140/90 x 18 IRC Motocross Z Mk II

DIMENSIONS AND CAPACITIES

Weight	238 lbs. (108kg)
Weight distribution	47.5% front, 52.5% rear
Wheelbase	59.2 to 60.6 in. (1504 to 1539mm)
Seat height	37.1 in. (944mm)
Handlebar width	32.7 in. (830mm)
Footpeg height	16.5 in. (419mm)
Ground clearance	12.7 in. (323mm), at engine cradle
Steering head angle	28.5 degrees from vertical
Front wheel trail	4.72 in. (120mm)
Frame	tubular chromoly steel, single front downtube
Fuel tank	plastic, 3.0 gal. (11.5*l*), no reserve
Instrumentation	none

PERFORMANCE

Top speed (observed)	89 mph (142 kph)

WARRANTY: none

AVAILABLE COLOR: yellow only

All weights and measurements are taken with machine unladen and fuel tank empty

Ride Review

• Oh, if you only knew how close I came to ruining this test. You see, back when we first talked of doing a Japanese Open-crosser comparison, I suggested that we omit the RM465. After all, on paper, it seemed virtually the same bike as last year, back when it barely edged the YZ465 in our 1981 Open comparison. So what chance would it have, I rationalized, against bigger, faster, better-suspended '82 bikes like the CR480R and YZ490J? The Suzuki just wouldn't be competitive, I thought, so we ought to concentrate on the two *new* bikes and not unnecessarily embarrass the "old" RM.

Well, any embarrassment surrounding this subject is mine, not the Suzuki's. My idea was shot down, obviously, and we dutifully included the RM in this test. Good thing, too, seeing as how it promptly proved that it still is The Best, regardless of how similar it is to the '81. Its improvements may seem trivial in the sales brochure but they're formidable on the track. And when you combine that with the fact that neither the CR nor the YZ are as dramatically improved as their new features would indicate, it explains why the RM narrowly won the All-Japan Open-Class Moto-Olympics—and how I narrowly missed making one of the biggest mistakes of my life. —*Paul Dean*

• When you have three almost-equally competitive box-stock motocrossers like the Honda, Yamaha and Suzuki, the biggest advantage any one of them can have is the right feel. It doesn't matter that one has a slightly better motor and another turns more precisely, what really separates one from the others is the way it feels. The bike that's "right" can make up for any number of minor problems, even a few big ones, because its rider feels more at home.

I feel most at home on the YZ490, even though I know it isn't always as fast as the CR or the RM. And because it feels so right I'm prepared to spend a lot of time and a pocket full of money to make it even better than it is. I'm ready to start with a slight disadvantage and make the Yamaha even more "right" for me than it is right now.

When I've shaved some weight from the heavy-feeling chassis, added 20mm to the exhaust's front pipe to add low-end power and have made the suspension a little more compliant over small bumps, the YZ will feel even better. It still might not be any better than a well-prepared CR or RM, but to me it will feel a whole lot better. And that little extra bit of self-confidence will be all it takes to give me and the Yamaha an edge.

—*David Dewhurst*

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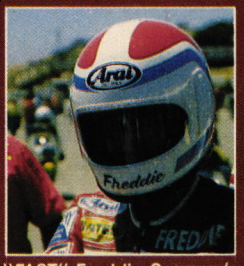

"FAST" Freddie Spencer's Custom Painted ASTRO

Arai HELMETS

The ASTRO, like all Arai helmets, is available in S, M, L, & XL at a suggested retail price of $164.95, directly from Arai Helmet, Ltd. (Dept. G), P.O. Box 421, Tenafly, NJ 07670. Add $5.00 for postage & handling. A decal/literature pack illustrating the full line of Arai open-face, full-face and motocross helmets is available by sending $1.00 in cash or stamps.

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Cycle Guide's

SPECIAL EDITION

HELMETS

What's new from the helmetmakers in open- and full-face designs for dirt and street.

HELMETS are by far the most important protective devices motorcyclists can use. After all, the head is the most exposed and delicate part of the anatomy, not to mention being the most important, and you only get issued one per lifetime. Further since the vast majority of motorcycle fatalities are due to head injuries (and not, obviously, because of injuries to the arms, legs or even the torso), and since in most of those accidents the rider was not wearing a helmet, the conclusion is perfectly clear: If you let a helmet offer itself for sacrifice in an accident, chances are that you'll save your precious head for another day and another ride.

There are no guarantees, of course, that a helmet positively will prevent a fatality; but in a crash where the rider's head hits something—and statistics prove that in most motorcycle accidents, it *does*—a helmet increases his chances for survival from slim to good. And it does that simply by dissipating the energy of an impact more slowly. A helmeted head is decelerated more gradually than an unhelmeted head, which must stop almost instantaneously, and that makes the difference.

That dissipation of energy is accomplished by the two main parts of a helmet,

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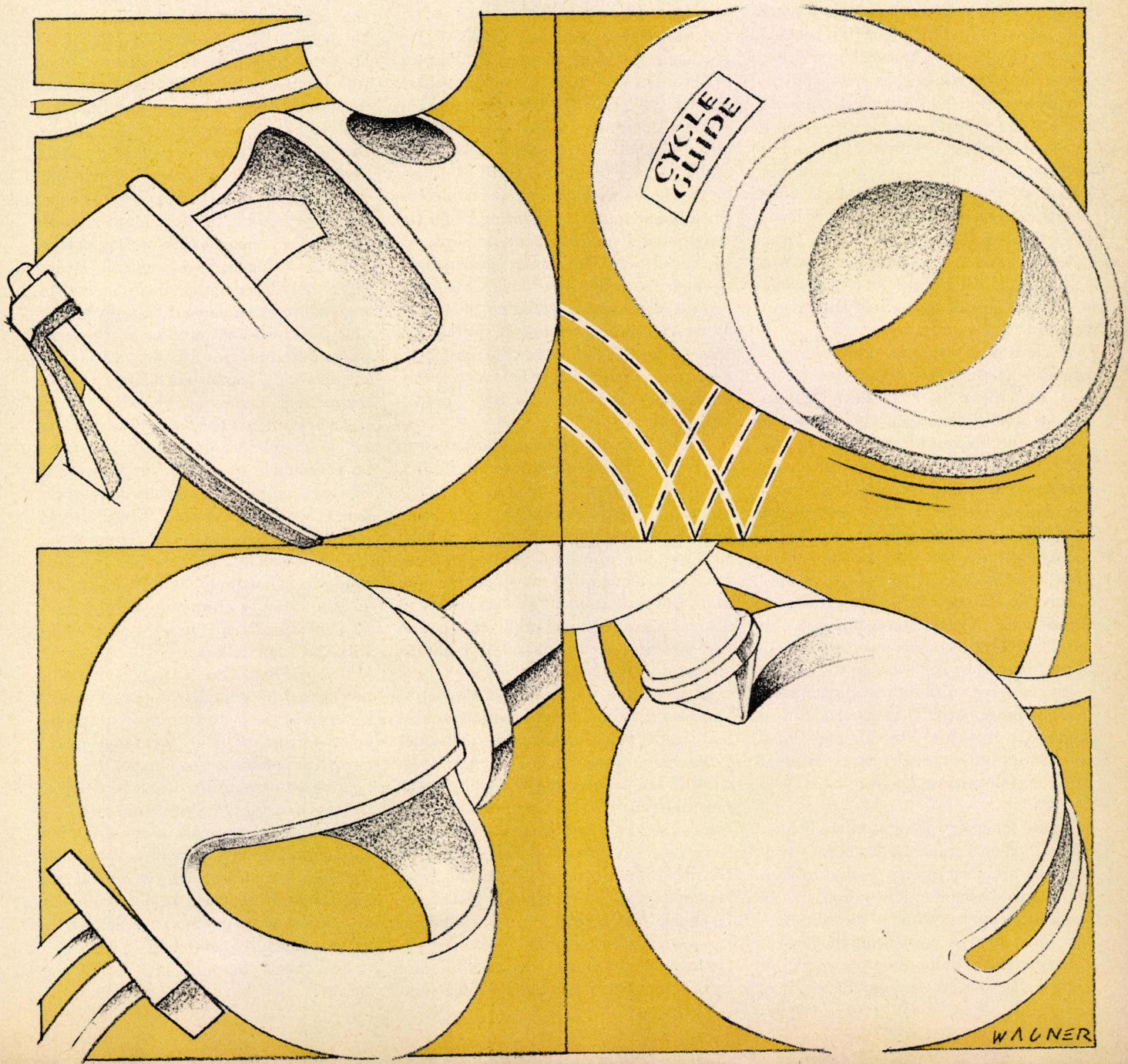


the outer shell and the liner, each of which has a separate but related function. The liner, which usually is some form of expanded bead foam, is designed to compress under impact at a controlled rate and thus absorb the bulk of the impact's energy. Exactly how it compresses is a function of its thickness (more is always better) and its resistance to compression as dictated by the hardness of the material. If the liner is too soft, your head will compress it too easily and "bottom out" against the hard outer shell. Too hard, and it might not compress at all. As far as your head is concerned, both conditions give the same results. It is also important that the liner not "bounce back" to its original shape. If it does, it momentarily stores the energy of the impact before transferring it to your head.

Not that the outer shell is unimportant in determining a helmet's potential safety. Because aside from providing the helmet's shape and structure, the shell serves two protective purposes. It must adequately resist penetration by hard, sharp objects, such as fence posts and footpegs, and it must contribute to energy absorption. In a laminated fiberglass shell, for example, strong shear forces act beween the layers of fiberglass as an impact occurs. These forces can destroy the bonding between the layers through a process called delamination. And this action requires energy, of course, which it gets by absorbing part of the energy caused by the impact.

It should be obvious, then, that the helmet often must be sacrificed to save the head that was in it. There have been numerous accidents in which a helmet was almost totally destroyed, even split in two, yet it did its job by absorbing the energy and not transferring it to the rider's head. So a smashed helmet is not necessarily one that failed, but likely one that *worked.*

To determine just how well any given helmet can be expected to work, there are a number of standard tests. These tests are simple in theory—you smash and bash a lot of helmets—but complex in execution. All of the forces must be measured with a high degree of accuracy, since the impact takes place within a matter of milliseconds. Most testing involves three general areas: First, the helmet must absorb energy; it must prevent penetration; and it must stay on the head.

To test for energy absorption, the helmet is mounted on a standard headform which is in turn attached to a device that raises it to a specified height and then drops it. The headform is instrumented to measure peak impact forces in *g*s, one *g* being the force of gravity, and it is dropped onto a variety of immovable anvils of various shapes. Typically, the anvils are flat, hemispherical and, in at least one test, cylindrical in shape. The height of the drop determines the velocity at impact; and by measuring the headform's peak deceleration, the energy dissipated by the helmet can be calculated.

Penetration is tested with the headform connected electrically to a pointed penetrator that is dropped onto the helmet from a specified height. If the penetrator makes electrical contact with the headform, the helmet fails the test.

Chinstraps and attaching methods are tested by pulling downwards on them with a jaw-like simulator and measuring total deflection. Some of these tests are static (a long, steady pull) and some are dynamic (a hard, swift jerk).

There are three major test standards that helmet buyers should be aware of before they make a purchase. The DOT (Department of Transportation) certification is a requirement for every helmet sold in the United States for highway use. The ANSI (American National Standards Institute) Z90.1-b-1979 certification is tougher and is, in fact, the former Snell 1970 standard. The Snell standards, named for the Snell Memorial Foundation, are by far the toughest and are formulated primarily for racing purposes. The current working Snell standard is Snell 1975, although it is in the process of being superseded by Snell 1980. What all of this means to you, the buyer, is that the helmet that passes the most stringent tests is more likely (but not *guaranteed*) to offer that last bit of added protection in a crash.

In all cases, the Snell standard requires the delivery of the most amount of force into the helmet and allows the least amount of energy transmitted to the headform. Snell 1980 is roughly similar to Snell 1975 but adds impacts with a cylindrical anvil to go along with those on the flat and hemispherical anvils. The 1980 standard also includes an impact of the chin bar on full-face helmets and has a flammability standard as well.

Besides all of the applicable standards, you also have to consider the advantages and disadvantages of the different helmet types. Some riders prefer the unconfined, wind-in-the-face feeling offered by open-face helmets, but that same feature becomes a serious shortcoming should you hit something face-first. Full-face models, on the other hand, offer protection for your face and chin, but some riders feel claustrophobic with their heads stuck inside of those kinds of helmets. There also are special motocross helmets, which are full-face models but with larger eye openings than most street models and extended face bars to allow easier breathing in hot or dusty conditions. So in the end, which type of helmet is the one for you depends upon your personal tastes and how much you value your baby-face looks.

In addition to a helmet, you should also wear eye protection. With a full-face helmet this usually means some sort of faceshield, while either goggles or a shield are compatible with open-face helmets. Motocross helmets, though, demand the use of goggles exclusively unless you install the appropriate snaps to accept a faceshield. There is a wide range of tints available on most shields and goggles to help cut down on glare, as well as various fog-free features.

There are a few choices to be made as far as basic helmet construction is concerned, too, mostly in the materials used in the composition of the outer shell. Most shells are either some form of fiberglass mat and resin, or a cast plastic-family material such as polycarbonate. The plastic types allow for very good quality control because they're manufactured in permanent molds and have the color impregnated right into the material. But no polycarbonate helmet has yet passed the Snell standards, usually because they're susceptible to deterioration from petrochemicals—solvents, fuels and even their *fumes*—which can cause the material to break down chemically. Generally, you should not even paint a polycarbonate helmet due to the presence of solvents in the paints. If in doubt, check the instructions, before you buy.

An even more important thing to do before you buy a helmet, though, is to try it on. It should fit snugly; too small is uncomfortable, too big is dangerous because the helmet won't stay in place. The chinstrap should be as tight as you can stand it and still be reasonably comfortable. If it isn't tight, the helmet may come off, and it'll do so more easily than you would have thought possible. And *never* wear a helmet with the strap undone.

If you do have a crash, the helmet should be checked by a qualified person—usually someone at the factory or distributorship—before further use. The helmet may appear as good as new inside and out, but there can be internal damage that can't be detected by the untrained eye. Sometimes, a crashed-on helmet can be repaired, but very often it simply must be replaced. But that's not such a bad thing when you stop and think about it. Because if you're still around to have to pay for a new helmet, the old one obviously did its job.

And that's the point of wearing one, isn't it?

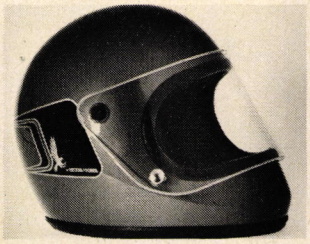
FULL FACE

Arai Helmets
Arai Helmet (USA) Ltd.
P.O. Box 421
Tenafly, NJ 07670
(201) 567-5707
Astro
Price: NA
The Arai Astro meets DOT and Snell '80 requirements. The Astro is constructed of multi-layer fiberglass with an expanded styrofoam inner liner and weighs 3.4 pounds. Two faceshields—clear and smoke-tint—are supplied with each helmet. The Astro scratch-resistant faceshield flips up and down using a one-hand latch mechanism. Available in black or white with reflectorized graphics, and Pearl Maroon or Pearl Blue with gold pinstriping. A velvet carry bag is included. Sizes Small through Extra Large.

Arai Helmets
cont'd
Trophy
Price: NA
The Trophy is Arai's Snell '80 version of the Snell '75-approved RX-7—the same type helmet worn by AMA racers Wes Cooley and Dale Singleton. The Trophy is made of fiberglass and polymer filament with an expanded foam liner covered with leather and brushed nylon. Total weight including faceshield is about three pounds. Available in sizes Small through Extra Large. In either black or white. DOT-approved.

Arai Helmets
cont'd
Elite
Price: NA
The Elite has Snell '80 certification and is DOT-approved. The fiberglass helmet is equipped with Arai's standard snap-down faceshield, and is available in black, white and other solid colors. The Elite and open-face Classic are the only Arai helmets sold in sizes Small through Extra-Extra Large.

Arthur Fulmer Helmets
Arthur Fulmer Co.
P.O. Box 177
Memphis, TN 38101
(800) 238-3130
Phoenix
Price: $149.95
The Phoenix has a multi-layer, hand-laid fiberglass shell and expanded polystyrene liner. Includes two adjustable faceshields—clear and smoke-tint. Colors available are Black and Wineberry; sizes 6⅞ through 7⅝. The Phoenix is DOT-approved and has Snell '80 certification.



Arthur Fulmer Helmets
cont'd
Eagle
Price: $119.95
Arthur Fulmer's full-face model-line includes: the Hawk ($81.95), Falcon ($96.95) and Eagle (shown). All have shells constructed of hand-laid fiberglass, polyurethane liners and padded neck rolls. Colors include Burgundy, Black and Carbon Silver; sizes 6⅞ through 7⅝. All Arthur Fulmer helmets carry a two-year warranty and are DOT-approved.

Bell Helmets
Bell Helmets, Inc.
15301 Shoemaker Ave.
Norwalk, CA 90650
(213) 921-9451
Star
Price: $159.95
The redesigned Star has a hand-laid fiberglass shell and a flush-fit Lexan faceshield that uses Bell's patented Kam Lok system to lock it in four different open or closed positions. The black terry cloth interior has neck and ear comfort rolls, and optional cheek pads are available. Colors include black, white and silver. The Star meets Snell 1975 certification and is DOT-approved. Available in hat sizes 6¾ to 7¾.

Bell Helmets
cont'd
M-1
Price: $249.00
Bell's M-1 was designed especially for professional racers. The fiberglass shell is lighter than a conventional Star's, and features the three-way-adjustable Kam Lok faceshield system. The Lexan shield is 50-percent thicker than the Star's for increased safety at high racing speeds. The M-1 comes with neck and ear rolls, and cheek pads. Available in silver with blue pinstriping only. The M-1 exceeds Snell 1975 certification standards. Fits sizes 6¾ to 7¾.

BIEFFE Helmets
O'Neal Distributing, Inc.
9555 Owensmouth Ave.
Chatsworth, CA 91311
(213) 998-1049
Integral 9001
Price: $52.50
The DOT-approved 9001 has an injection-molded polycarbonate shell and a terry cloth inner lining. A unique feature is the pushbutton, two-stage closure system for the Lexan shield, and the chinstrap uses a seatbelt-style buckling mechanism. Available in white, black, blue and red in sizes Small through Extra Large.

BIEFFE Helmets
cont'd.
2001
Price: $32.95
A lower-priced polycarbonate full-face model from BIEFFE that still carries the DOT approval. The terry cloth-lined 2001 uses the conventional shield closure and chinstrap buckles. In black, white, red and blue in sizes Small through Extra Large.

BMW Helmets
BMW of North America, Inc.
Walnut and Hudson Streets
Norwood, NJ. 07648
(800) 521-0361
BMW System Helmet
Price: $190.00
A DOT-approved helmet with a fiberglass-reinforced polyester shell that includes a layer of polyurethane. But the primary feature is a unique design that offers the versatility of three helmets in one. The entire front section is a snap-on assembly that allows the helmet to be worn either as a full-face model with flip-up shield, a full-face model with just a visor peak or, with the entire front assembly removed, as an open-face helmet. The front assembly also flips up to facilitate easy fitting, a feature that riders who wear glasses should find particularly appealing. Available in white with red accent or silver with blue accent through authorized BMW motorcycle dealers.

Deist Helmets
Deist Safety
641 Sonora Ave.
Glendale, CA 91201
(213) 240-7866
Pro/Series-3
Price: $115.57
The Pro/Series-3 is a fiberglass helmet designed for racing purposes. It was wind-tunnel-tested for aerodynamics, and has an adjustable snapless faceshield. The interior is lined with soft foam, including chin and cheek padding. Sizes 6⅞ through 7⅝. Snell '75 certification.

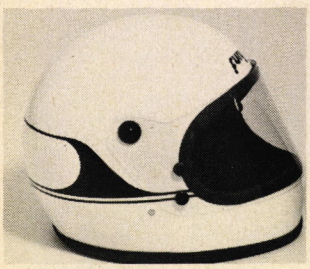
Driver Helmets
Echo Products
322 S. Date
Alhambra, CA 91803

Continued

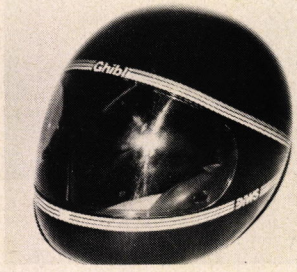
(213) 284-9375
FG-1
Price: Approx. $150.00
An Italian-made helmet just being introduced in this country. It's DOT-approved, featuring a laminated fiberglass outer shell and a soft brushed nylon interior lining. Available in white, black, blue, red, silver and red metallic in the usual range of head sizes.

Driver Helmets
cont'd.
PC-1
Price: Approx. $100
A DOT-approved polycarbonate-shell model that features a brushed nylon interior lining. Available in white, black, blue, red, silver and red metallic in a wide range of head sizes.

Electro Helmets
Electro, Inc.
P.O. Box 999
Memphis, TN 38101
(901) 527-3864
Electro 3
Price: $139.95
The Electro 3 has a multi-layer fiberglass shell. The interior has lateral foam lining, with cheek and chin padding. The adjustable, snapless faceshield locks into position using friction inserts. Colors include black, white, silver, burgundy and Black International; sizes 6⅞ through 7⅝. The Electro 3 has a two-year warranty and is Snell '75-certified and DOT-approved.



Fury Helmets
American Sports
Company, Inc.
2970 East Maria St.
Compton, CA 90221
(213) 636-9978
Trail Blazer
Price: NA
Fury's Trail Blazer is constructed of multi-layer fiberglass over an expanded polystyrene liner. The interior is padded with nylon tricot. Stick-on letters are included with the Trail Blazer so you can personalize it with your name. Helmet colors include white, red, black and yellow. The recessed flip-up shield uses Fury's Ratchet-Loc mechanism. Available in sizes Small to Extra Large. Has Snell '75 certification and is DOT approved.



Ghibli Helmets
ISE Sales Corporation
1941 E. Edinger Ave.
Santa Ana, CA 92705
(714) 547-7112
Full Face
Price: $108.95
The European-made polycarbonate Ghibli is DOT-approved. It features a flush-fit, clear or optionally tinted faceshield that can be locked open in three positions. The Ghibli is available in blue, red, black or white; sizes Small through Extra Large.

Grant/LTC Helmets
Land Tool Company
650 East Gilbert
Wichita, KS 67211
(316) 265-5665
Maxon Mega
Price: $79.00
The Maxon Mega has a polycarbonate shell and an interior using an expanded polystyrene liner. Available in most solid colors; sizes Small to Extra Large. DOT-approved.

Hondaline Helmets
American Honda
Motor Co., Inc.
P.O. Box 50
Gardena, CA 90247
(213) 327-8280
Pro Honda Road Racing
Price: NA
The Pro Honda has a hand-laid fiberglass shell and brushed nylon interior. The flip-up, flush-fit faceshield has four stationary positions and tear-away-shield mounting posts. The Pro Honda shares the same red, white and blue graphics as rider helmets for Honda's endurance roadrace team. Available in sizes Small through Extra Large from authorized Honda dealers. Snell '75-certified and DOT-approved.

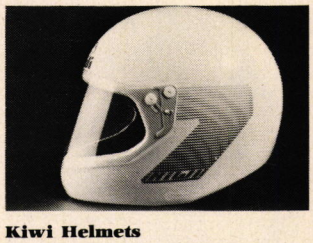
Hondaline Helmets
cont'd
Britestripe
Price: NA
The Britestripe full-face and open-face helmets are color-matched to most Honda street bikes. The wrap-around graphics are reflective Scotchlite tape. Construction includes: hand-laid fiberglass shell, brushed nylon interior and rubber beading around the edges. Available in sizes Small through Extra Large at authorized Honda dealers. Snell '80-certified and DOT-approved.

JEB'S Helmets
Quadrifoglio, Incorporated
5745 N. 11th Street
Phoenix, AZ 85014
(602) 265-5846
JC/COM
Price: NA
A fiberglass-shell, DOT-approved helmet lined with a fire-resistant knit material. The three-pound JC/COM can be fitted with either a standard Lexan faceshield or a six-position ratcheting shield. Available in true hat sizes and in a choice of four color schemes from most motorcycle dealers.

JEB'S Helmets
con't
GS/PL-2
Price: NA
A polycarbonate-shell helmet that features a six-position ratcheting Lexan faceshield, all-nylon inner lining, soft rubber trim and a "spoiler" shape that's intended to reduce wind drag and lift. The GS/PL-2 weighs just three pounds and is available in hat sizes in black, red or white with contrasting bold trim. Available at most motorcycle dealers.

Kawasaki Helmets
Kawasaki Motor Corp., U.S.A.
1062 McGaw Ave.
Santa Ana, CA 92711
(714) 540-9200
GP Helmet
Price: $165.00
Kawasaki's GP Helmet is based on the Bell Star. It has all the same features, including multi-layer fiberglass shell, terry-cloth interior and .080-inch-thick faceshield using Bell's Kam Lok open/close adjustment. The GP is available in one color only—Firecracker Red with Navy Blue and Silver graphics; sizes 7 through 7½. It is DOT-approved and has Snell '80 certification.

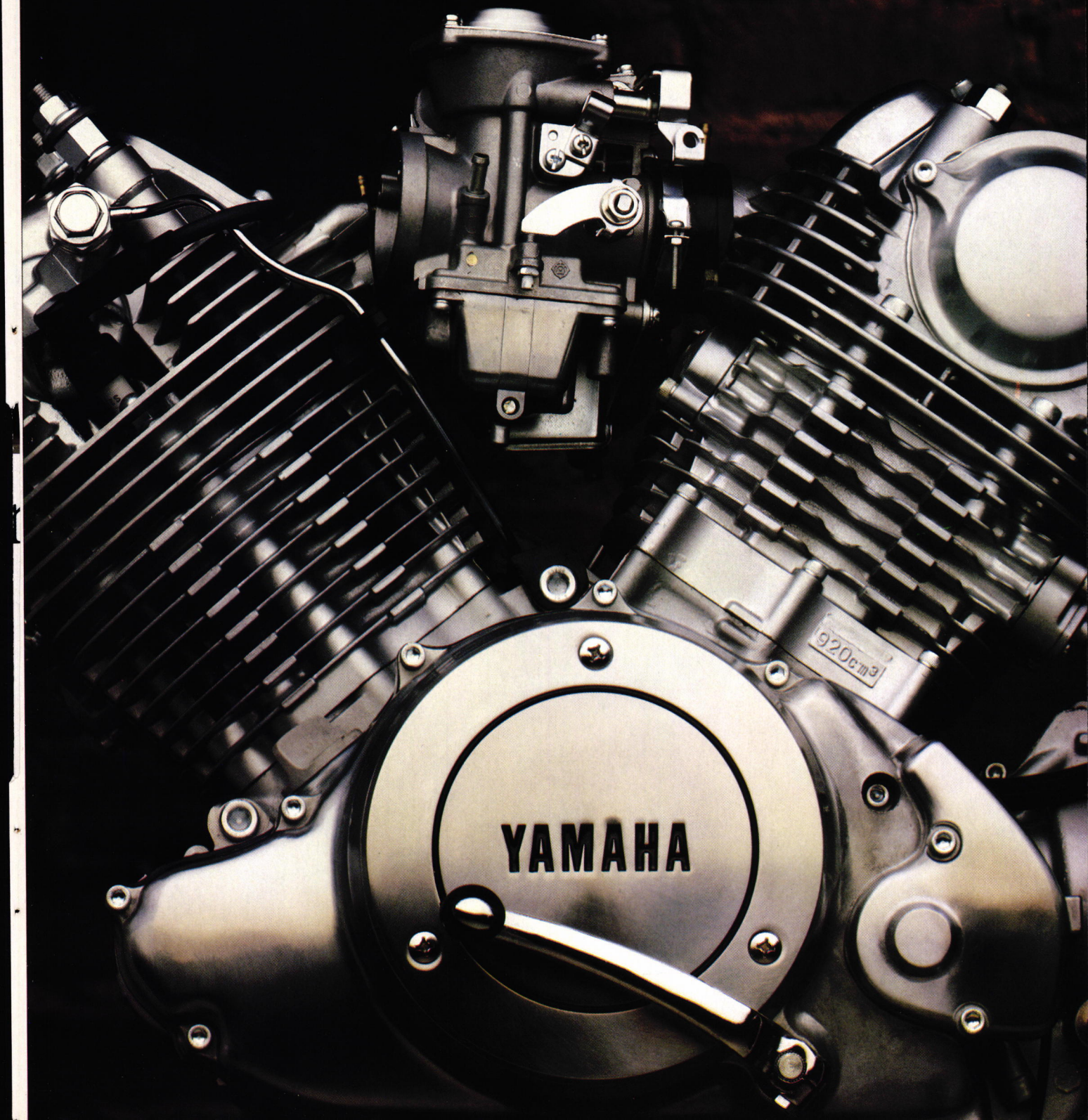
Kawasaki Helmets
cont'd
Spectre
Price: $134.00
The Spectre is a touring helmet made for Kawasaki by Bell based on the Tour Star. Its features include multi-layer fiberglass shell, brushed nylon interior, four-position-adjustable faceshield with thumb slots, and quick-release D-rings. The Spectre is available in one color scheme—Black and Wine Red with gold graphics; sizes 7 through 7⅝. Snell '70 and DOT-approved.



Kiwi Helmets
Dyna Tour Corporation
2108 N. Major
Chicago, Ill. 60639
(312) 637-1007
Kiwi K7
Price: $84.95
The Kiwi K7 is made in Switzerland. It

Continued

Give people exactly what they want and they'll just want more.



Introducing 170cc's more Virago.

If you're one of the people who loved the Virago 750 but were hoping we'd come out with a bigger engine, this is your lucky page.

Because that big, beautiful hunk of metal you see below is the new Virago 920.

It's got the same classic V-twin engine, low-slung design, Monoshock rear suspension and shaft drive of the Virago 750.

However, it also has an extra 170cc's pulling for it.

We could have stopped right there and you probably would have been perfectly happy. Even thrilled. But we went on to give it a generous helping of Yamaha technology.

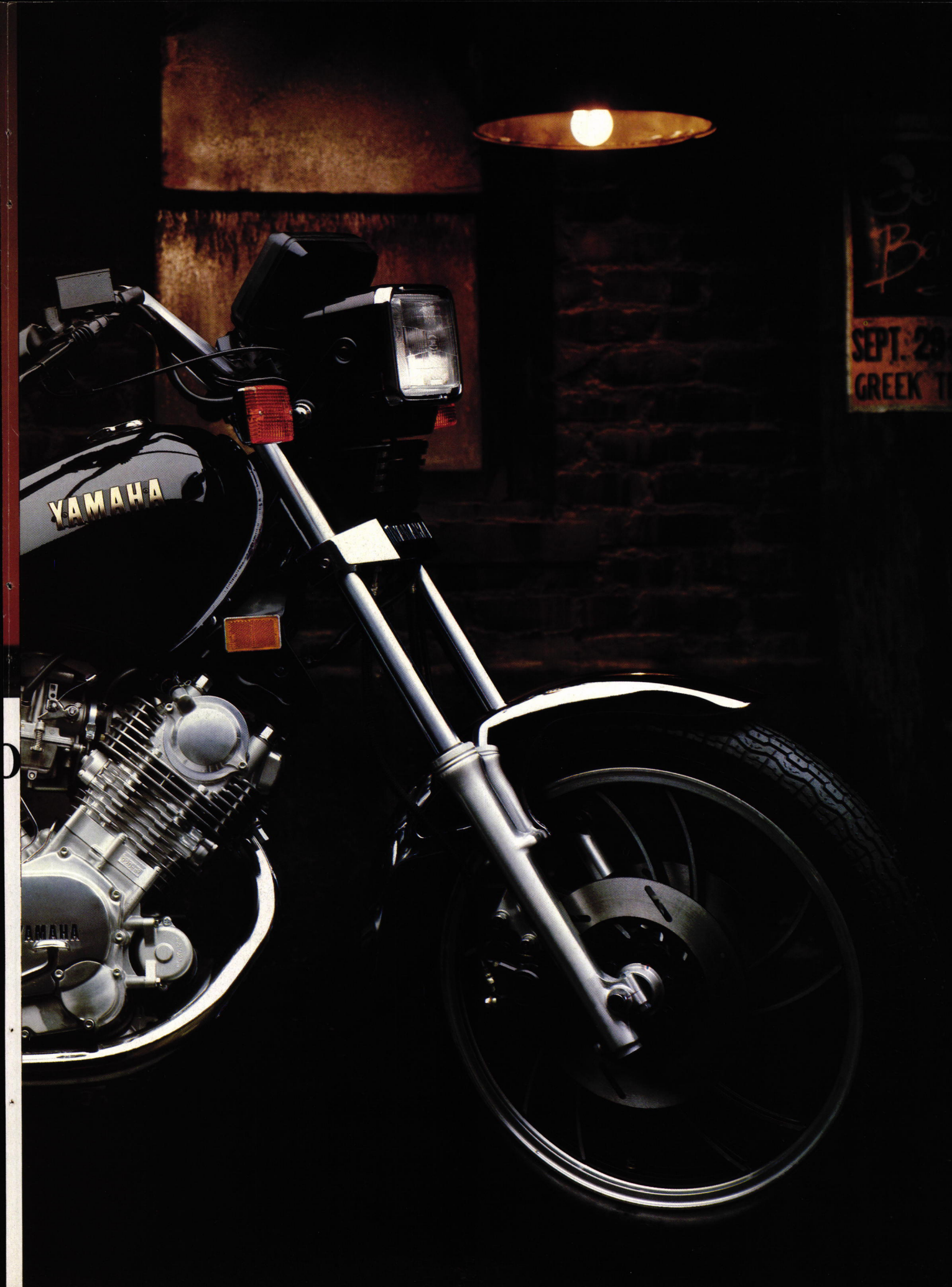
Like adjustable forged-aluminum handlebars. A Computer Monitor System. And the world's first electronic LCD speedometer and tach.

We also added another disc up front. And gave the adjustable front forks an air cross-over system so both sides can be adjusted from one point.

Put it all together and what you've got is the new Virago 920.

A big, beautiful, low-slung V-twin with locomotive power to spare. In every gear. Plus all the latest tricks.

Kind of like high-tech nostalgia. To go.


YAMAHA
SEPT. 2
GREEK

From zero to classic in one year.

Last year, at exactly this time and place, we introduced the Virago 750.

The rest is, as they say, motorcycle history.

For a lot of guys the Virago's unique blend of classic V-twin engine, low-slung design and Yamaha technology completely fulfills their fantasy of a motorcycle.

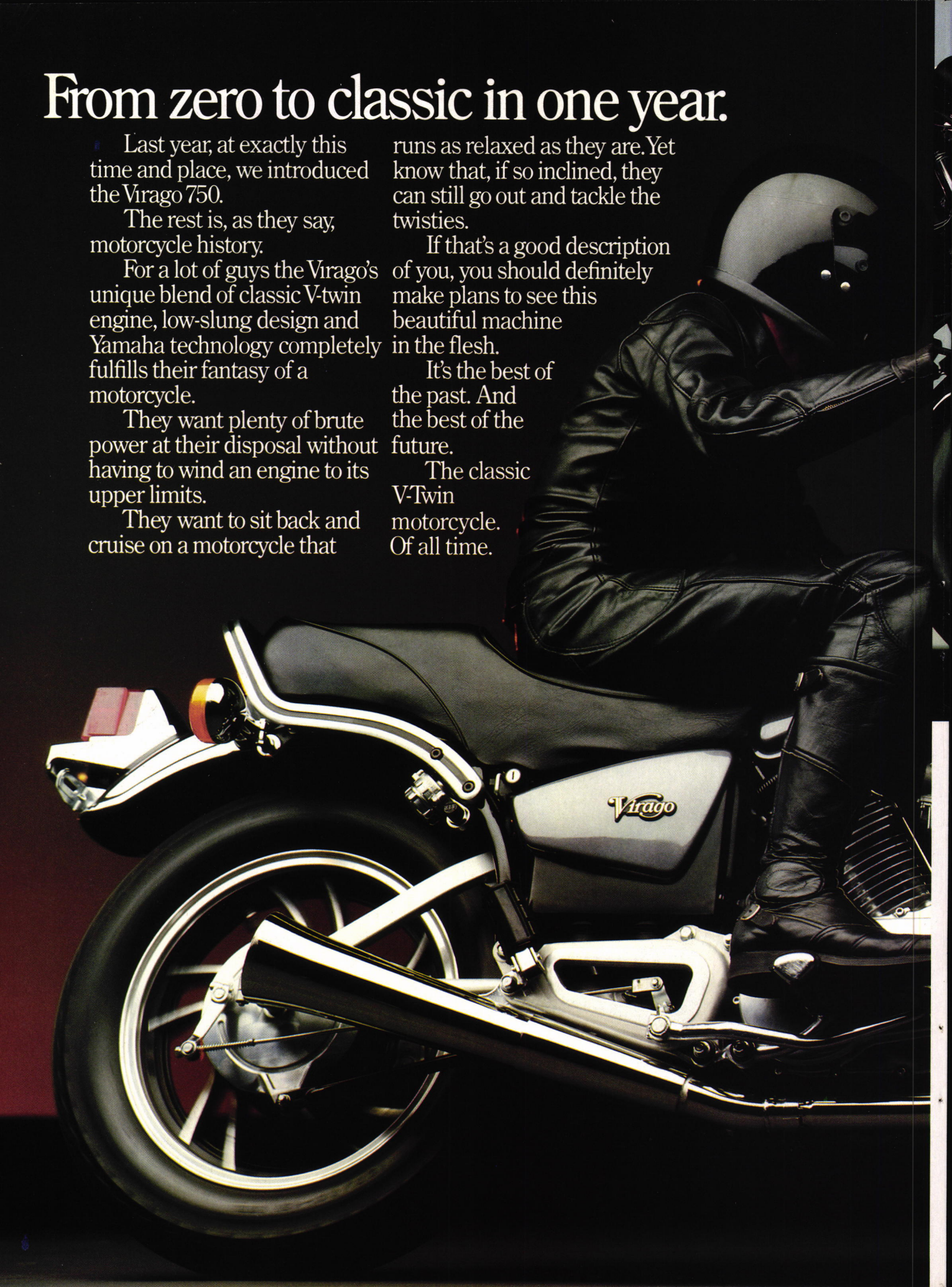
They want plenty of brute power at their disposal without having to wind an engine to its upper limits.

They want to sit back and cruise on a motorcycle that runs as relaxed as they are. Yet know that, if so inclined, they can still go out and tackle the twisties.

If that's a good description of you, you should definitely make plans to see this beautiful machine in the flesh.

It's the best of the past. And the best of the future.

The classic V-Twin motorcycle. Of all time.



YAMAHA

The V-twin was invented in

We'd like to give credit to Gottlieb Daimler for developing the V-twin engine 93 years ago.

Over the years, it's proven to have a lot of things going for it: Reliability. Light weight. Narrowness. Fuel economy. And efficient weight distribution.

Nevertheless, it still lacked something extremely important. Something only we could give it:

Yamaha engineering.

---

① Instrumentation and lighting on the Virago 750 includes an electric tachometer, self-cancelling turn signals and a quartz/halogen headlight. The 920 has the world's first electronic LCD speedometer and tach. Plus a Computer Monitor System with an LCD display that warns you of low levels of brake fluid, engine oil, battery acid and fuel. It even tells you if the headlight, taillight or brakelight is burnt out, or if the side stand is down.

② Air passes through the frame, eliminating side-mounted air cleaners for an incredible 14.8 inch engine width and a better than 47° lean angle.

③ Our exclusive monocoque frame design makes the engine a stressed frame

1889. And perfected in 1981.

member, eliminating the excess bulk and weight of downtubes.

④ The cylinders are placed at a 75° angle and fire on alternate crankshaft rotations to produce power so smooth there's no need for an engine balancer. The cylinder angle also leaves plenty of room in between for carburetors and intake components. Plus extras like two separate oil pumps. One to feed the transmission, the other for the engine.

⑤ Off-setting the cylinders slightly improves rear cylinder cooling.

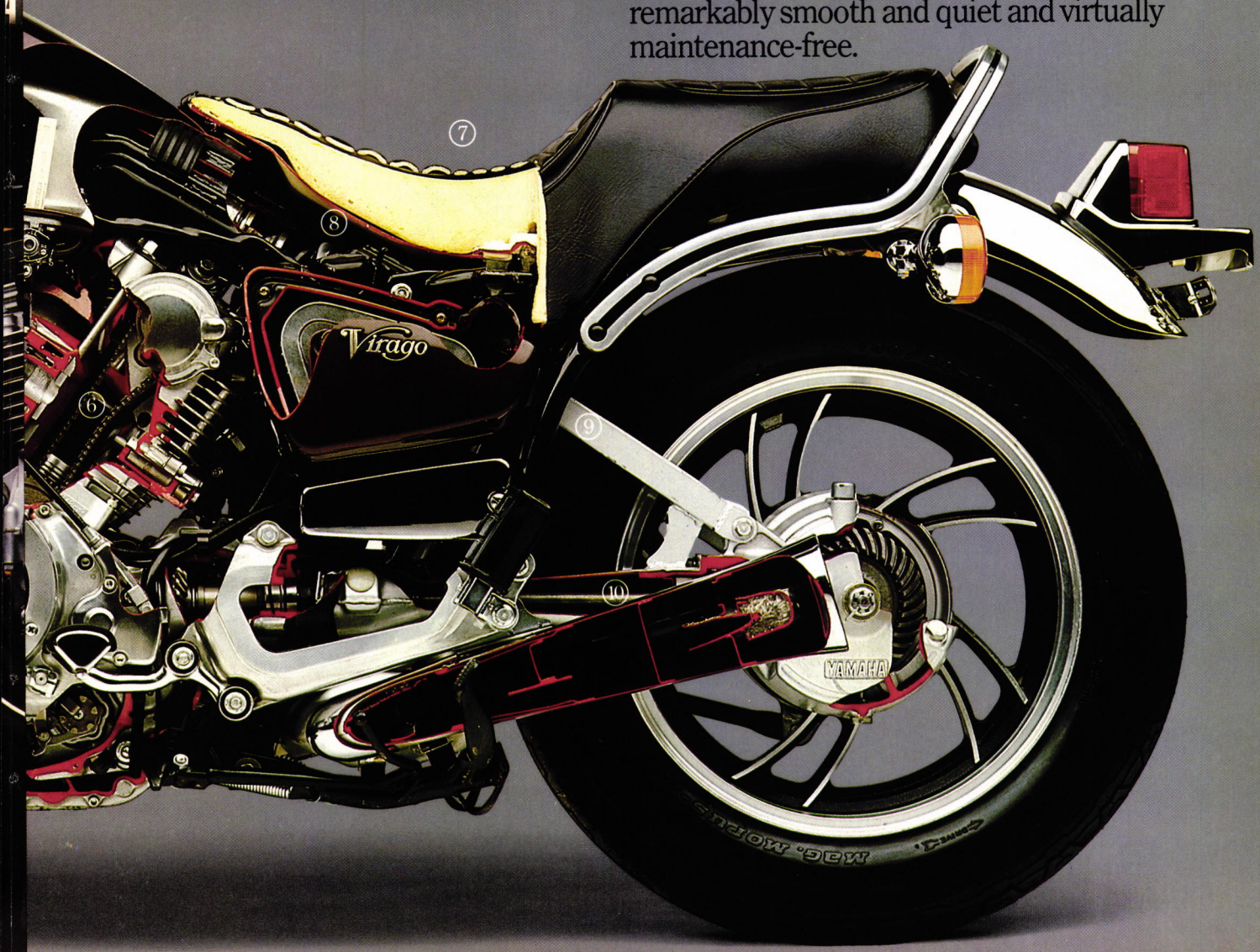
⑥ Cam chain tensioners are self-adjusting to keep the low-maintenance overhead cam truly low-maintenance.

⑦ The monocoque frame design allows the engine to sit lower without sacrificing ground clearance. The resulting 29.5 inch seat height gives you an extra-low center of gravity when you're moving and feet-on-the-ground stability when you're not.

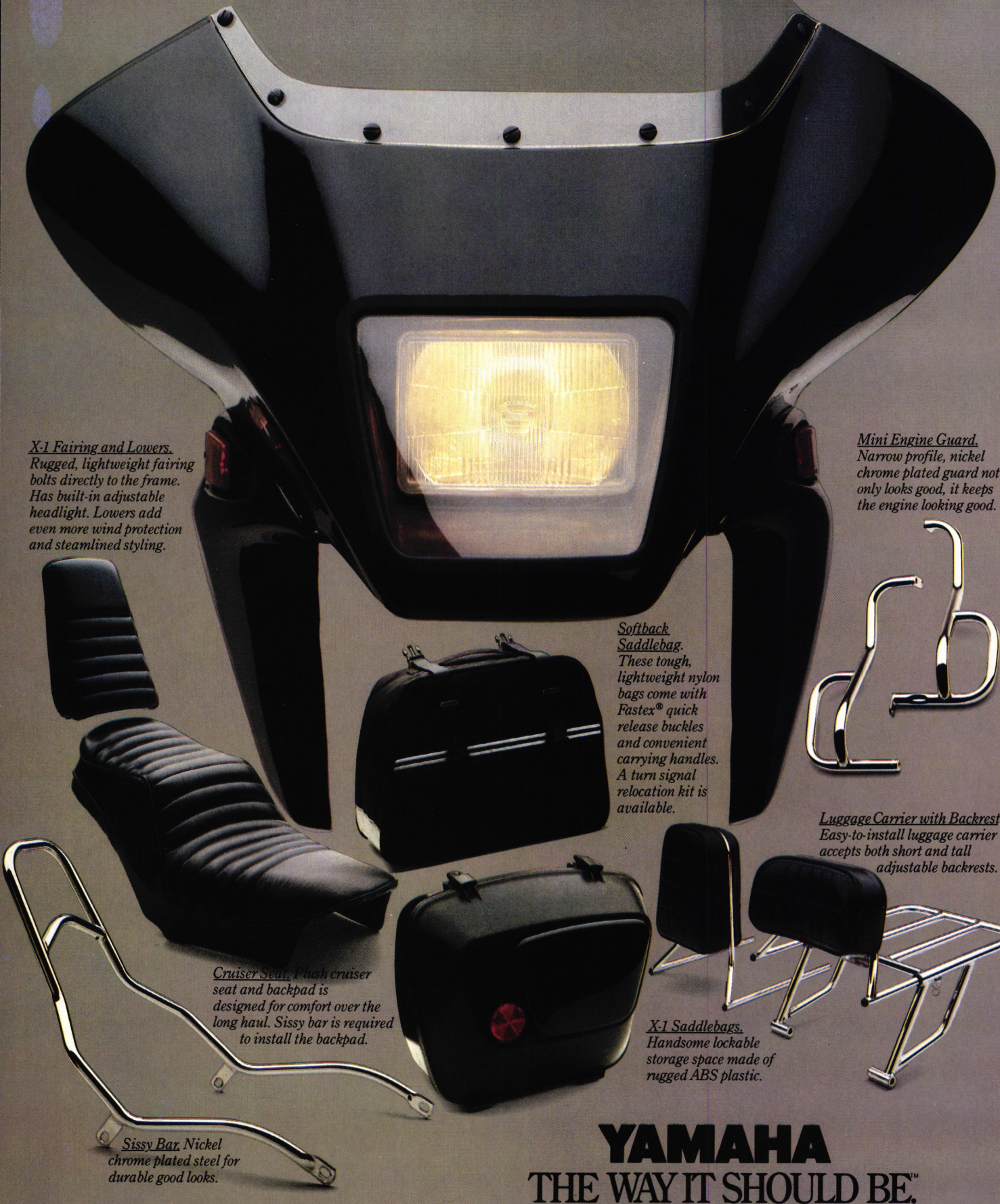
⑧ The Monoshock uses an air spring working in conjunction with a coil spring. Damping, spring-rate and ride height can all be adjusted easily. From one point. Blindfolded.

⑨ Our race-proven Monoshock rear suspension system works with the triangulated swing arm to keep the rear wheel running straight and true.

⑩ Our state-of-the-art shaft drive is remarkably smooth and quiet and virtually maintenance-free.



What the well-dressed Virago will be wearing this year.



X-1 Fairing and Lowers. Rugged, lightweight fairing bolts directly to the frame. Has built-in adjustable headlight. Lowers add even more wind protection and steamlined styling.

Mini Engine Guard. Narrow profile, nickel chrome plated guard not only looks good, it keeps the engine looking good.

Softback Saddlebag. These tough, lightweight nylon bags come with Fastex® quick release buckles and convenient carrying handles. A turn signal relocation kit is available.

Luggage Carrier with Backrest. Easy-to-install luggage carrier accepts both short and tall adjustable backrests.

Cruiser Seat. Plush cruiser seat and backpad is designed for comfort over the long haul. Sissy bar is required to install the backpad.

X-1 Saddlebags. Handsome lockable storage space made of rugged ABS plastic.

Sissy Bar. Nickel chrome plated steel for durable good looks.

YAMAHA

THE WAY IT SHOULD BE.™

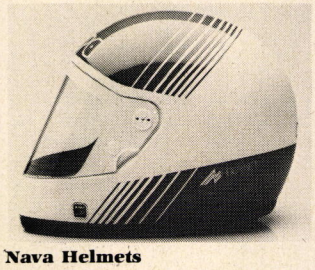
Always wear a helmet and eye protection. Specifications subject to change without notice.

has a Lexan shell that was wind-tunnel-tested for aerodynamics, and an adjustable flush-fit faceshield. The interior features a molded polystyrene liner covered with brushed nylon, and a chin spoiler inside the nose piece to deflect incoming wind. Available in black, white and other solid colors; sizes Small through Extra Large. DOT-approved.

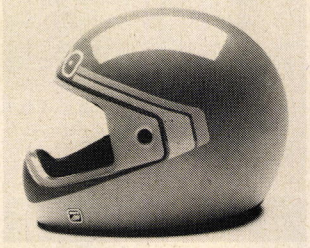
KRW Helmets
American Sports Company, Inc.
2970 East Maria St.
Compton, CA 90221
(213) 638-7814
Turbo
Price: NA
The Turbo is KRW's top-of-the-line model. Features vent holes in the ribbed nose section and flush-fit faceshield using KRW's Ratchet-Loc mechanism. The Turbo has a multi-layer fiberglass shell and expanded polystyrene inner liner covered with brushed nylon. The Turbo is Snell 1975-certified and DOT-approved. Available in sizes Small through Extra Large. Colors include white, black, metallic blue, metallic red, pearl black or charcoal black.

KRW Helmets
cont'd
Competition
Price: NA
Each KRW Competition helmet is hand-finished with the rider's number and name on the sides and back. The unique paint scheme is available in a two-tone arrangement including yellow, white, black or red. The Competition comes in full-face or open-face models, sizes Small through Extra Large. It is Snell '75-certified and DOT-approved.

Lazer Helmets
Lazer Helmet, Inc.
31139 Via Colinas
Suite 302
Westlake Village, CA 91362
(213) 991-3018
Full Face
Price: $104.95
The Belgian-made helmet's shell is formed from a thermoplastic called Ronfalin, and is 4mm thick. The liner is expanded polystyrene. A clear or optional smoke-tint faceshield fits flush to the shell and uses a ratchet lock, four-position open/close mechanism. Sizes Extra Small (6½) through Extra Large (7⅞). Lazer helmets are available in solid colors (black and white) and metallics (blue, silver and red, but for $109.95). Meets DOT standards.



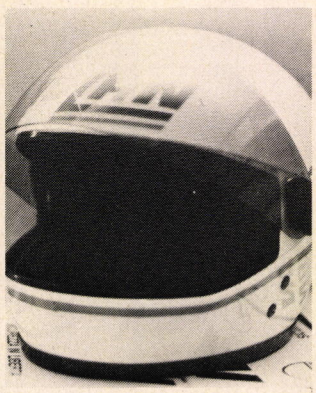
Nava Helmets
Nava U.S.A.
5729 Ward Ave.
Virginia Beach, VA 23455
(804) 460-0492
FiberNava
Price: $249.95
The shell is a composition of resin and Fiber-net, a woven Kevlar material. The Italian-made FiberNava features a self-closing faceshield; wind pressure at about 35 mph lowers the visor to a vertical position and at about 50 mph snaps it shut. The faceshield can also be locked into an open position. Available in black, white, metallic blue and metallic burgundy, or various color combinations. Sizes Small through Extra Large. The helmet is DOT-approved and Snell '80-certified.



Nava Helmets
cont'd
IntegralNava3
Price: $129.95
The IntegralNava3's polycarbonate shell was computer- and wind-tunnel-designed. It has an expanded polyurethane liner, and the faceshield has a thumb notch for easy opening and closing. Available in solid or two-tone color schemes. Sizes Small through Extra-Extra Large. Meets DOT standards.

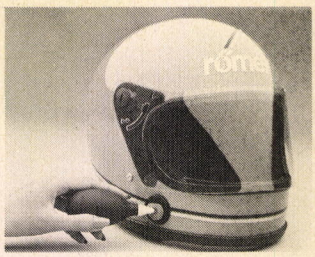
NJL Helmets
NJL Distributing
P.O. Box 188
Montpelier, ID 83254
(208) 847-1705
Invader and Roadaire
Price: $104.95
The Invader (shown) and Roadaire have fiberglass shells and expanded polystyrene liners laminated with high density foam. Features include ventilation system routed from the slotted nose-piece to top of faceshield, a three-stage ratchet flip-up shield, reflective graphics and DOT approval. Colors available are white, black, red, blue, burgundy and silver, with optional color-matches to most motorcycles. Sizes include Extra Small through Jumbo (hat sizes 6-9).

NJL Helmets
cont'd
Color-Coordinate
Price: $90.95
NJL's Color-Coodinate model is a fiberglass helmet painted to match most popular motorcycles. It features a recessed flip-up faceshield that uses three-position ratchet-closure mechanism. An optional smoke-tint shield is available. Sizes range from Extra Small through Jumbo. An open-face version is available for $66.95 and both models are DOT-approved.

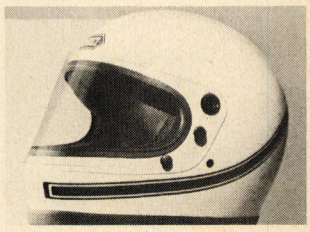


Nolan Helmets
Moto Sport, Inc.
25 W. South Orange Ave.
South Orange, NJ 07079
(201) 761-7601
N-18
Price: $89.95
Italian-made N-18 has an injection-molded shell made from GE Lexan. The 4mm-thick optical-grade Lexan shield features 120-degree peripheral vision and Nolan's patented Cam-operated visor flip-up mechanism. The DOT-approved N-18 comes with removable cheek pads and is available in white and black (with 3M striping), red, yellow, orange, Silver Green and Apple Green. Weighs three pounds; sizes Extra Small through Extra Large.

Porsche Design Helmets
Fitch-Wyckoff International, Inc.
305 N. Harbor Blvd.
Fullerton, CA 92632
(714) 738-6262
Porsche Design CP-3
Price: $199.95
The Porsche Design CP-3 has an injection-molded polycarbonate shell incorporating a seven-position faceshield and a two-way ventilation system. The inner liner is constructed of high-density foam covered with velour. The chin strap is leather-lined, and the helmet face opening is large enough to easily fit eyeglasses. Available in red, black or white, solid or two-tone combinations. This German-made helmet fits sizes Extra Small through Extra Large and is DOT-approved.



Romer Helmets
Fitch-Wyckoff International, Inc.
305 N. Harbor Blvd.
Fullerton, CA 92632
(714) 738-6262
Pneumatic 2000
Price: $124.95
The Pneumatic 2000's shell is constructed of Amidite, a nylon-based plastic which is not affected by gasoline or most solvents. The 2000 has an air-inflatable interior that will fit just about any head size. Air is injected through a special nozzle insert to fit the liner to the rider's head. The German-made helmet has a multi-position faceshield and is available in three colors—red, white or black. DOT-approved.



Shoei Helmets
Shoei Helmet Corp.
1717 Pontius Ave.
Los Angeles, CA 90025
(213) 477-6051

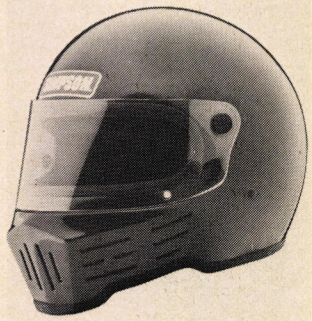
Continued

ZG-II
Price: $135.00
The ZG-II is constructed of fiberglass and Kevlar. The inner liner is high-impact, non-resilient styrofoam, and the brushed nylon interior is foam-padded. Outer trim is rubber. Colors available are white, blue, red, silver, yellow and black; sizes Small through Extra Large. The ZG-II meets Snell '75 standards and is DOT-approved.

Shoei Helmets
cont'd
ER-II
Price: $137.00
The ER-II's faceshield was designed for easy opening and closing, and it can remain open while riding by using the three-position closure mechanism. It has a fiberglass-reinforced shell and polystyrene liner with nylon padding. Colors include white, silver, black and red; sizes Extra Small through Extra Large. Snell '80-certified and DOT-approved.

Shoei Helmets
cont'd
S-20
Price: $67.00
The S-20 is Shoei's lowest-priced full-face helmet. It has a fiberglass shell with a face opening large enough to fit most goggles and it comes with an integral visor and flip-up faceshield. Colors include red, white, yellow, blue, black and metallics. Sizes Extra Small through Extra Large. The S-20 is DOT-approved.

Simpson Helmets
Simpson Sports
22630 South Normandie Ave.
Torrance, CA 90502
(213) 320-2204
Model 62
Price: $165.00
Simpson's Model 62 has a hand-laminated fiberglass shell and a beaded polystyrene liner that's covered with soft-weave black brushed nylon. The flush-mount, .085-inch-thick Lexan faceshield remains open in any position and snaps shut easily with the Quik-Latch closure system. The mouth guard section has clavicle notches and six brass-screen-filtered air vents. Available in Comp Silver and Charcoal Mist epoxy. The 62 is DOT-approved and Snell '80-certified.



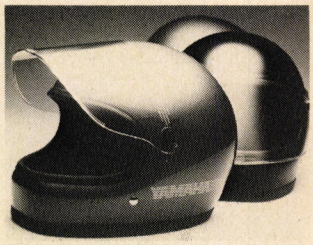
Simpson Helmets
cont'd
Model 32
Price: $225.00
Features include hand-laminated fiberglass shell, multi-vent nose with brass-screen filters, and polystyrene liner covered with brushed nylon. The Model 32 also has Simpson's flush-mount, .085-inch-thick Lexan faceshield incorporating the Quik-Latch closure system. Colors include Indy Red, Comp Silver and Charcoal Mist, in sizes 6⅞ to 7¾. Has Snell '80 certification and DOT-approval.

Suzuki Helmets
U.S. Suzuki Motor Corp.
3251 East Imperial Highway
Brea, CA 92621
(714) 996-7040
GSX Full Face
Price: $99.95
The GSX series is color-matched to many of Suzuki's street bikes. Colors include Imperial Maroon, Marble Le Mans Blue, Stardust Silver and Jet Black with either gold or blue pinstriping. The shell is constructed of multi-layer fiberglass and lined with rubber-lock molding. The interior is lined with trylon. The GSX features an adjustable flip-up faceshield using a ratchet closure mechanism. Available in sizes Small through Extra Large. Has Snell '75 certification and is DOT-approved.

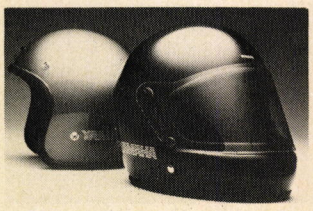
Uvex Helmets
IBCO International
1429 W. 16th St.
Long Beach, CA 90813
(213) 432-3901
Uvex X-1
Price: NA
The German-made X-1 has a hand-laminated fiberglas shell with a foam-filled, velour-padded interior and cheek and neck pads. Features include an adjustable air system in the nosepiece, 3M reflective graphics and a three-position faceshield. The chin bar has a special track for installing Uvex's optional wind cuff. Available in metallic grey; sizes Extra Small through Extra Large. DOT-approved.

Uvex Helmets
cont'd
Uvex X-2
Price: NA
The polycarbonte X-2's interior has foam-filled velour padding, and cheek and neck pads. Features: flush-fit faceshield, 3M reflective graphics, adjustable air-flow ventiltion and optional chin cuff. Available in red or blue; sizes Extra Small through Extra Large. DOT-approved.

Vetter Helmets
Vetter Corporation
Rt. 136, P.O. Box 927
Rantoul, Ill. 61866
(217) 893-9300
Vetterlite
Price: $89.95
The Vetterlite's contoured shell is made of Zytel-St, a paintable plastic material by DuPont. It has a styrofoam liner and matrix-lined interior. The photo-sensitive, flip-up faceshield is adjustable due to having a spring-pin detent, and it also has anti-fog, anti-scratch coating. Colors and reflective graphics are matched to many popular street-model motorcycles. Available in sizes Small through Extra Large. DOT-approved. Also comes in an open-face version.



Yamaha Helmets
Yamaha Parts
Distributors, Inc.
6555 Katella Ave.
Cypress, CA 90630
(714) 761-7300
Gran Prix
Price: $129.95
Yamaha complements its XS street-model motorcycles with the Gran Prix helmet. It features a hand-laid fiberglass shell and energy-absorbing polystyrene liner. The injection-molded faceshield fits flush to the helmet and features a unique adjustable open/close pivot. The Gran Prix fits sizes 7 to 7⅝. Colors are black or silver accented with gold Yamaha graphics. The Gran Prix is DOT-approved and Snell '75-certified. Sold exclusively through Yamaha dealers.



Yamaha Helmets
cont'd
GT
Price: $99.95
Yamaha's GT series is available in two models: full-face and open-face. Features a hand-laid fiberglass shell and brushed nylon interior.The open-face model has provisions for a three-snap visor or faceshield; the full-face has a flush-fit shield. GT colors (maroon, red, silver and black) match most Yamaha street-bike combinations. GTs are available in sizes Small through Extra Large and are DOT-approved. Sold only at authorized Yamaha dealers.

OPEN FACE

Arai Helmets
Arai Helmet (USA) Ltd.
P.O. Box 421
Tenafly, NJ 07670

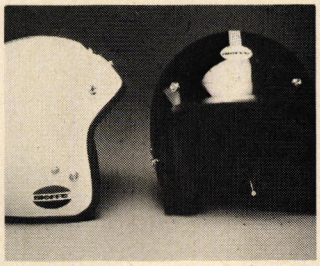
(201) 567-5707
Classic
Price: NA
The Classic is an open-face helmet with an all-fiberglass shell. Available in black, white and other solid colors. Optional pinstriping is available. Meets Snell '80 standards and is DOT-approved. Sizes Small to Extra-Extra Large.

Arai Helmets
cont'd
Challenger R
Price: NA
The Challenger R has an all-fiberglass shell and an expanded polystyrene liner. Available in white, black and other solid colors, with optional pinstriping. Sizes Small through Extra Large. DOT-approved.

Arthur Fulmer Helmets
Arthur Fulmer Co.
P.O. Box 177
Memphis, TN 38101
(800) 238-3130
Falcon
Price: $69.95
The Falcon has a hand-laid fiberglass shell, polyurethane shock-absorbing liner and nylon-covered foam-padded interior. As with other Arthur Fulmer open-face helmets (Hawk and Eagle), the Falcon has chrome trim around its edge. Available in various colors with Scotchlite reflective trim. This DOT-approved helmet has a two-year warranty and is available in sizes 6¾ through 8.

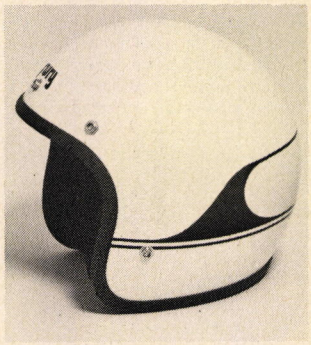
Bell Helmets
Bell Helmets, Inc.
15301 Shoemaker Ave.
Norwalk, CA 90650
(213) 921-9451
Magnum III
Price: $97.50
The Magnum III is Snell '75-certified and DOT-approved for on- and off-road use. The shell is constructed of hand-laminated fiberglass and the inner liner is expanded polystyrene covered with brushed nylon. Includes a five-snap Flex visor and Bell graphics. Colors are black, white, red, yellow or blue. Sizes from 6⅞ to 7⅝.

Bell Helmets
cont'd
Mini Cross
Price: $59.95
The Mini Cross is a smaller version of the Magnum III to fit young off-road riders. The small shell features fiberglass construction, a three-snap De Coster-style bubble visor and brushed nylon interior. Colors include white, red, yellow and blue. Sizes 6½ to 6¾.

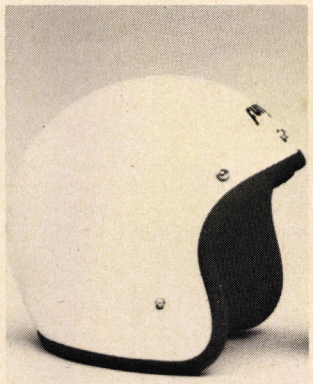


BIEFFE Helmets
O'Neal Distributing, Inc.
9555 Owensmouth Ave.
Chatsworth, CA 91311
(213) 998-1049
1001
Price: $22.95
An exceptionally low-priced DOT-approved polycarbonate helmet from the Italian firm of BIEFFE. The 1001 will accept visors or flat shields and is available in white, black, red, blue and yellow in sizes Small through Extra Large.

Electro Helmets
Electro, Inc.
P.O. Box 999
Memphis, TN 38101
(901) 527-3864
Electro 1
Price: $94.95
The Electro 1 has a multi-layer fiberglass shell and an impact-absorbing polystyrene crown covered with laterally ribbed padding. Available in black, white, silver and burgundy; sizes 6⅞ through 7⅝. DOT-approved and Snell '80-certified.



Fury Helmets
American Sports
Company, Inc.
2970 East Maria St.
Compton, CA 90221
(213) 636-9978
Trail Blazer Open Face
Price: NA
The open-face Trail Blazer has a multi-layer fiberglass shell and padded nylon tricot interior. Stick-on lettering is included. Helmet colors include red, white, black and yellow. Available in sizes Small to Extra Large. Has DOT and Snell '75 certification.



Fury Helmets
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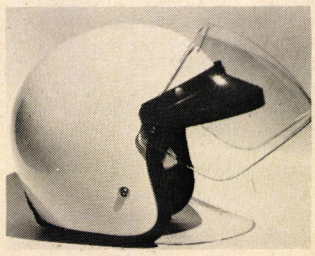
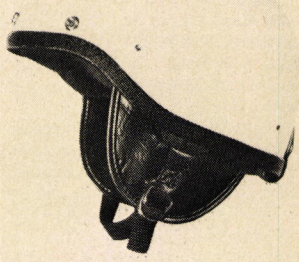
Solid Color
Price: NA
Fury's Solid Color helmet is available in sizes to fit adults and children. The multi-layer fiberglass shell comes in several colors including white, black, yellow, red and blue. Uses Fury's snap-on faceshield that flips up. Junior and adult models are DOT-approved, but only the adult model is Snell '75-certified.



Grant/LTC Helmets
Land Tool Company
650 East Gilbert
Wichita, KS 67211
(316) 265-5665
Open Face
Price: $34.00
Grant's Open Face has a polycarbonate shell and polystyrene liner. Features include a flip-up bubble faceshield and three-snap visor. Colors include most solids, candies and metalflakes. Sizes Small through Extra Large. DOT-approved.



Grant/LTC Helmets
cont'd
Shortie
Price: $27.00
Grant's Shortie is a lightweight polycarbonate helmet that comes in a variety of colors, including solids, candies and metalflakes. The liner is of polystyrene and is covered with brushed nylon. The Shortie has padded ear covers and a goggle snap-strap on the rear. Sizes Small through Extra Large. DOT-approved.

Hondaline Helmets
American Honda
Motor Co., Inc.
P.O. Box 50
Gardena, CA 90247
(213) 327-8280
Custom
Price: NA
The Custom is available in open-face and full-face models, featuring hand-laid fiberglass shell, brushed nylon interior and rubber-molded beading. The two-tone paint schemes are gold-pinstriped to match most Honda Custom-series motorcycles. Available at authorized Honda dealers. Sizes Small through Extra Large; Snell '75-certified and DOT-approved.

Continued

SPECIAL EDITION: HELMETS

KRW Helmets
American Sports Company, Inc.
2970 East Maria St.
Compton, CA 90221
(213) 638-7814
Preferred 2500
Price: NA
The Preferred 2500 has a fiberglass shell and an inner liner of impact-absorbing styrene covered with brushed mazar cloth. Features include padded neck roll and rubber beading. The 2500 has Snell '75 certification and DOT-approval. Sizes Small (6⅞) to Extra Large (7½) in white or color-matched to most popular motorcycles (at an extra charge).

Nava Helmets
Nava U.S.A.
5729 Ward Ave.
Virginia Beach, VA 23455
(804) 460-0492
Go Jet
$49.95
The Go Jet is a polycarbonate open-face helmet that has no protruding visor snaps or metal hardware. It uses Nava's accessories, including: standard visor, aerodynamically designed high-speed visor (shown) or a clear faceshield. Available with Nava graphics in five colors: black, white, red, blue or yellow. The Go Jet is DOT-approved; sizes Extra Small through Extra-Extra Large.

NJL Helmets
NJL Distributing
P.O. Box 188
Montpelier, ID 83254
(208) 847-1705
Limited
Price: $77.95
The Limited has a fiberglass shell and expanded polystyrene liner. It uses a three-snap visor or faceshield. Available in two-tone silver only. A full-face version with the same color scheme is priced $99.95. Sizes Extra Small through Jumbo (hat sizes 6-9). Both Limited models are DOT-approved.

Shoei Helmets
Shoei Safety Helmet Corp.
1717 Pontius Ave.
Los Angeles, CA 90025
(213) 477-6051
SR-G
Price: $99.00
The SR-G is Shoei's top-of-the-line open-face helmet. It has a fiberglass shell and brushed-nylon-covered foam inner liner. Most goggles and eyeglasses will fit the 120-degree opening. Available in Shoei solid and metallic colors and in sizes Small through Extra Large. Shoei has a children's version, the S-105, of similar construction and design. The SR-G is Snell '75-certified and DOT-approved.

Suzuki Helmets
U.S. Suzuki Motor Corp.
3251 East Imperial Highway
Brea, CA 92621
(714) 996-7040
Open-Face Competition
Price: $103.95
The Competition has a hand-laid multi-layer fiberglass shell. The interior has a brushed nylon cover with a satin crown. Available in Team Suzuki colors and stripes. Sizes Small through Extra Large. Snell '75-certified and DOT-approved.

Suzuki Helmets
cont'd
GSX Open Face
Price: $83.50
The GSX open-face is available in four colors to match Suzuki's S-series street bikes. The shell is constructed of multi-layer fiberglass edged with rubber-lock molding. The interior is lined with trylon. Available in sizes Small through Extra Large. Has Snell '75 certification and is DOT-approved.

OFF-ROAD

Arai Helmets
Arai Helmet (USA) Ltd.
P.O. Box 421
Tenafly, NJ 07670
(201) 567-5707
Price: NA
The MX-80 has a fiberglass outer shell and features Arai's unique inner liner and interior padding which is claimed to dry within 48 hours after washing. The MX-80 meets Snell '80 requirements except for chin-bar specifications. The nose guard is detachable and has up/down and fore/aft adjustability. Colors include white, red, blue or yellow, sizes Small to Extra Large.

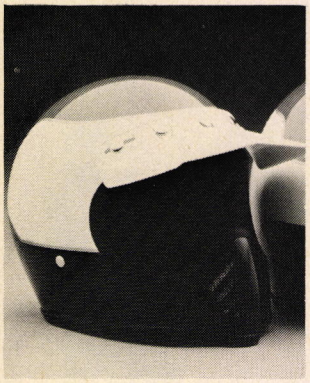
Bell Helmets
Bell Helmets, Inc.
15301 Shoemaker Ave.
Norwalk, CA 90650
(213) 921-9451
Moto 3
Price: $139.95
The Moto 3 by Bell carries Snell '75 certification for competition and is DOT-approved for on-highway use. It features a hand-laminated fiberglass shell and has an expanded polystyrene liner with neoprene molding and terry cloth interior. The contoured nose piece has eight air vents with integral filter screen. The Moto 3 comes with a five-snap Flex visor and is available in red, white, black, yellow or blue. Sizes 6¾ through 7¾.

Bell Helmets
cont'd
Mini Moto
Price: $99.95
Designed for small off-road riders and patterned after the Moto 3. The nose piece has six air vents with an integral filter screen. Features fiberglass construction and brushed nylon interior. Includes De Coster-style three-snap bubble visor and Mini Moto graphics. Comes in four colors: red, white, blue or yellow. Sizes 6½ to 6¾.

Electro Helmets
Electro, Inc.
P.O. Box 999
Memphis, TN 38101
(901) 527-3864
Motolite OR3
Price: $139.95
Motolite OR3 has a multi-layer fiberglass shell and its features include a wide face opening to fit most goggles, a vented chin piece and a five-snap visor. The OR3 has Snell '80 certification. Available in white, yellow and red; sizes 6⅞ through 7⅝.

Fury Helmets
American Sports

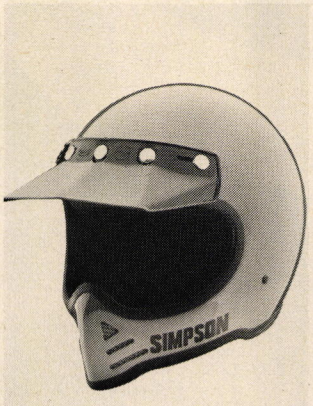
Company, Inc.
2970 East Maria St.
Compton, CA 90221
(213) 636-9978
Moto X
Price: NA
The Moto X features an outer shell of multi-layer fiberglass, an inner liner of expanded polystyrene and a padded interior covered in trylon. Rubberloc beading protects all exposed edges. The Moto X has six vents in the facial section, a dust filter and a ribbed design to add structural strength. The Moto X carries both DOT and Snell '75 approvals and is therefore sold for either on- or off-road use. A five-snap visor comes standard. Available in white, red, yellow or blue; sizes Small through Extra Large.



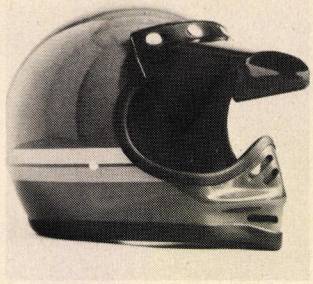
Hondaline Helmets
American Honda
Motor Co., Inc.
P.O. Box 50
Gardena, CA 90247
(213) 327-8280
Pro Honda MX
Price: NA
The Pro Honda MX has Snell '75 certification and is DOT-approved, so it can be worn for either street or off-road use. It has a hand-laid fiberglass shell and expanded polystyrene foam liner. Features include eight air vents with integral dust filter in the nose section, and a five-snap visor. The Pro Honda MX is painted red, white, and blue; sizes 6¾ through 7¾. Available at authorized Honda dealers.

KRW Helmets
American Sports
Company, Inc.
2970 East Maria St.
Compton, CA 90221
(213) 638-7814
Super-X
Price: NA
Has a multi-layer fiberglass shell and a brushed nylon interior. The Super-X's wide face opening is large enough to accommodate most goggles and is rubber-trimmed. Other features include a five-snap visor and six vent holes for air circulation. Comes in four colors: red, black, white or yellow and is Snell '75-certified and DOT-approved. Sizes Small (6⅞) to Extra Large (7½).

NJL Helmets
NJL Distributing
P.O. Box 188
Montpelier, ID 83254
(208) 847-1705
Off Road
Price: $82.95
The Off Road has a machine-laid fiberglass shell and expanded polystyrene liner. The facial opening is rubber-trimmed and large enough to accommodate most goggles. It has a six-slot vented nose section with filtering screen, and it accepts most five-snap visors. The Off Road can be specially ordered with the rider's name, make of bike or club affiliation painted on it. Standard colors match Honda, Kawasaki, Yamaha and Suzuki off-road bikes. Sizes Extra Small through Extra Large.



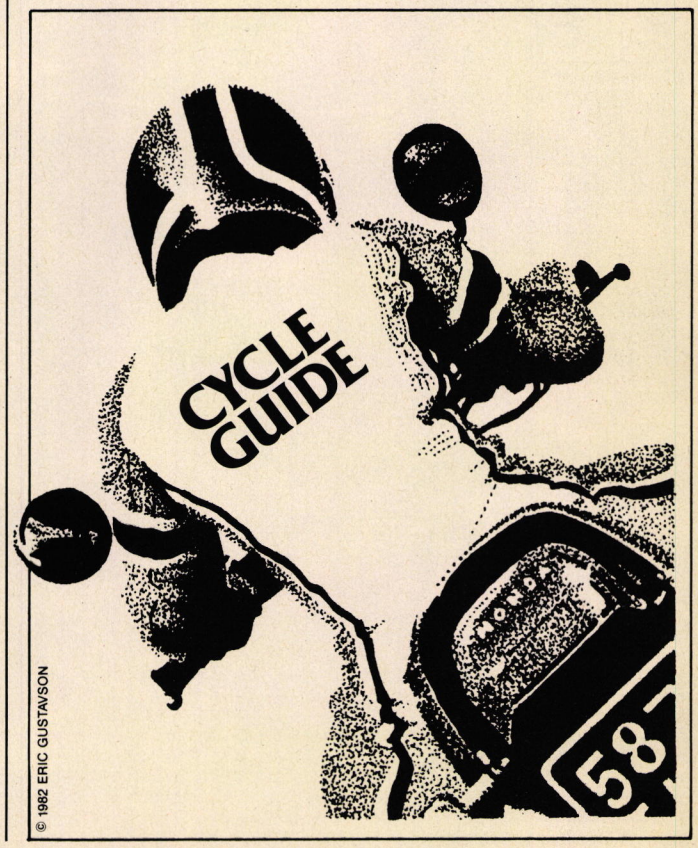
Simpson Helmets
Simpson Sports
22630 South Normandie Ave.
Torrance, CA 90502
(213) 320-2204
Model 52
Price: $139.00
The Model 52 is constructed of hand-laminated fiberglass and has a polystyrene inner liner covered with soft-weave black brushed nylon. The large face opening accommodates most goggles, and the six vent holes in the nose have brass-filter screens. The 52 comes with a five-snap visor and is available in Moto White, Stadium Yellow and MX Red, sizes 6⅞ to 7¾. It is DOT-approved and meets Snell '80 certification requirements.



Suzuki Helmets
U.S. Suzuki Motor Corp.
3251 East Imperial Highway
Brea, CA 92621
(714) 996-7040
Full Face MX
Price: $124.95
Has a multi-layer fiberglass shell and a brushed nylon interior. The ribbed nose-piece has screen-filtered air vents. The Full Face MX comes with a five-snap visor and is painted to match Suzuki off-road bikes. Available in sizes Small through Extra Large. Snell '75-certified and DOT-approved.

Uvex Helmets
IBCO International
1429 W. 16th St.
Long Beach, CA 90813
(213) 432-3901
Uvex X-C5
Price: NA
The X-C5 is DOT-approved, and so it can be worn for on-highway use. The fiberglass-shell helmet has a foam-filled, nylon-lined interior and large face opening to accept most goggles. Standard features include a goggle loop on the back and a three-snap visor. Available in white; sizes Extra Small through Extra Large.

Yamaha Helmets
Yamaha Parts
Distributors, Inc.
6555 Katella Ave.
Cypress, CA 90630
(714) 761-7300
MX
Price: $119.95
The MX helmet carries both DOT and Snell '80 approval, and it features a fiberglass outer shell, a brushed terrycloth interior lining and a unique port design on the mouthguard for ventilation. Available only in Yamaha Yellow in individual hat sizes ranging from 6⅞ to 7½ from any Yamaha dealer. ●



FUNCTIONABLE & FOXY

Helmet $105.00

- DOT approved.
- Reflective safety decorations by 3M.
- Nonallergenic foam filled velour padding.
- Chin strap with a new comfortable locking feature.
- Improved fit through additional padding in the cheek and neck area.
- Aerodynamically designed 4.2 millimeter polycarbonate outer shell.
- Inner helmet made with an increased impact force reduction, modeled after the Uvex two-step system.
- Excellent total vision made possible by the optically correct face shield. The shield is released by pushing buttons on both sides of the helmet and when in place is completely flush with helmet.
- Special Uvex chin bar closure system. This makes the helmet easy to put on and take off, especially for eyeglass wearers. It may also aid in the reduction of additional injuries when attempting to remove a helmet in the event of an emergency.

Goggles $ 35.95
Send $2. for Catalog

- Adjustable headband.
- Flexable plastic body.
- Aviator style lens shape.
- Available in clear or smoke lenses.
- Adjustable air vents for draft free ventilation.
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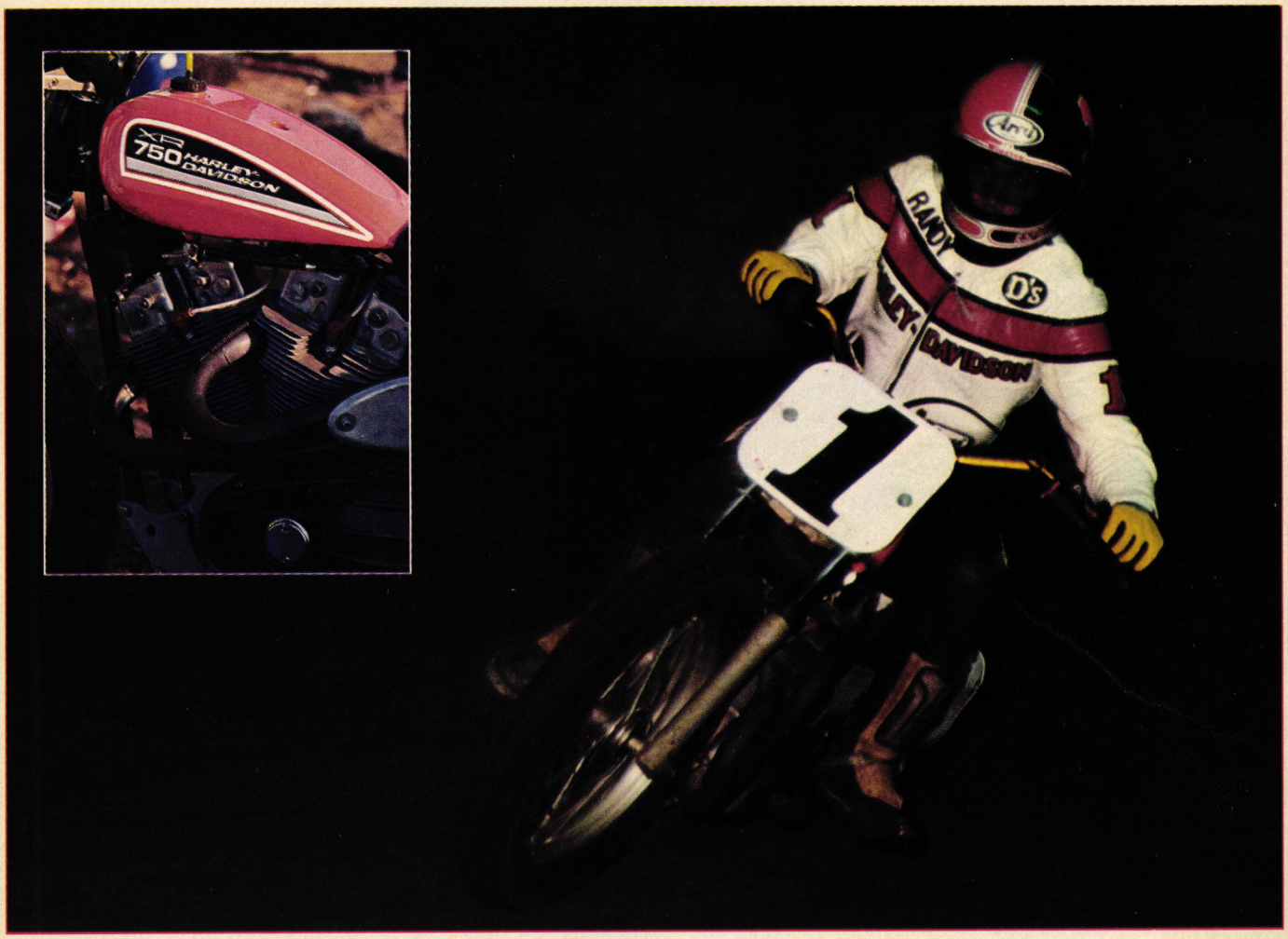
Cycle Guide's True Tales of Race Courses, Dark Horses and Machines at Speed

EDITED BY DAIN GINGERELLI



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By Gosh, By Golly and By Harley

The XR750 became reality as much by evolution as by engineering.

• A decade can be a lifetime in racing. During a 10-year stretch it's not uncommon for several different engine designs to take turns offering the winning edge. What proves to be the winner one year can suddenly develop into the proverbial boat anchor the next. For a racing engine to span a decade is like asking Miss America to stick around Atlantic City for another try. Ten-year designs just don't happen in racing—unless you're talking about the Harley-Davidson XR750.

The XR750 has endured for a decade now, and it looks like it's running into the Eighties with a full head of steam. Since its inception in 1972, eight of the past 10 AMA Grand National champions owe at least part of their successes to the XR750. In all likelihood 1982's No. 1 plate winner will be indebted to the Milwaukee workhorse, too.

The XR750 didn't just happen overnight, though. Its roots date back to 1968 following a rule change by the AMA. Prior to that, overhead-valve engines were restricted to 500cc and only side-valve engines could be 750cc. Conveniently for Harley-Davidson, it had a side-valver, the KR750, for Class C racing. Unfortunately for the rest of the world, the motorcycle was no longer produced for highway use—a fact since 1956. The side-valve engine, called the flathead, was like a dinosaur—a breath away from extinction. Harley-Davidson—and the AMA, which at the time seemed to favor the American com-

Continued

pany over foreign marques—was living on borrowed time. Technology and the remainder of the Twentieth Century would eventually catch up with the archaistic AMA. It finally did during the winter of 1968, and the AMA voted to allow OHV 750 engines the following race season.

The rule was the long overdue nail that sealed once and for all the flathead's coffin. Harley-Davidson's team manager then and now, Dick O'Brien, reflects: "The rules were changed to make the OHV 750 permissable in Class C—I'm not saying the flathead shouldn't have been legislated out, but it was pushed out of the picture by rules. It could have remained competitive for several more years if it weren't for the rules." The world, however, was ready for a new and more modern Harley-Davidson race engine.

While the flathead was ruled out of competitiveness, Harley faced the decision to get out of racing or build a new engine to benefit from the new ruling. Oval racing is synonomous with Harley-Davidson, and the new engine was begun immediately.

The first plan of attack was to build a stopgap engine for 1969. The streetable overhead-valved Sportster was pressed into service, and by reducing its stroke from 96mm to 82mm, the 883cc roadster became Class C-legal. It was called the XR750. By reducing the stroke, the production cylinders and cylinder heads could be used for racing, thus bypassing time- and money-draining research and development. So while the racing team was busy flying the colors—a luxury Harley-Davidson enjoyed since the days of the rumble seat—the engineering department was busy with slide rules and dynos developing a new and lighter XR750 for later use.

Mert Lawwill—from KR to XR days

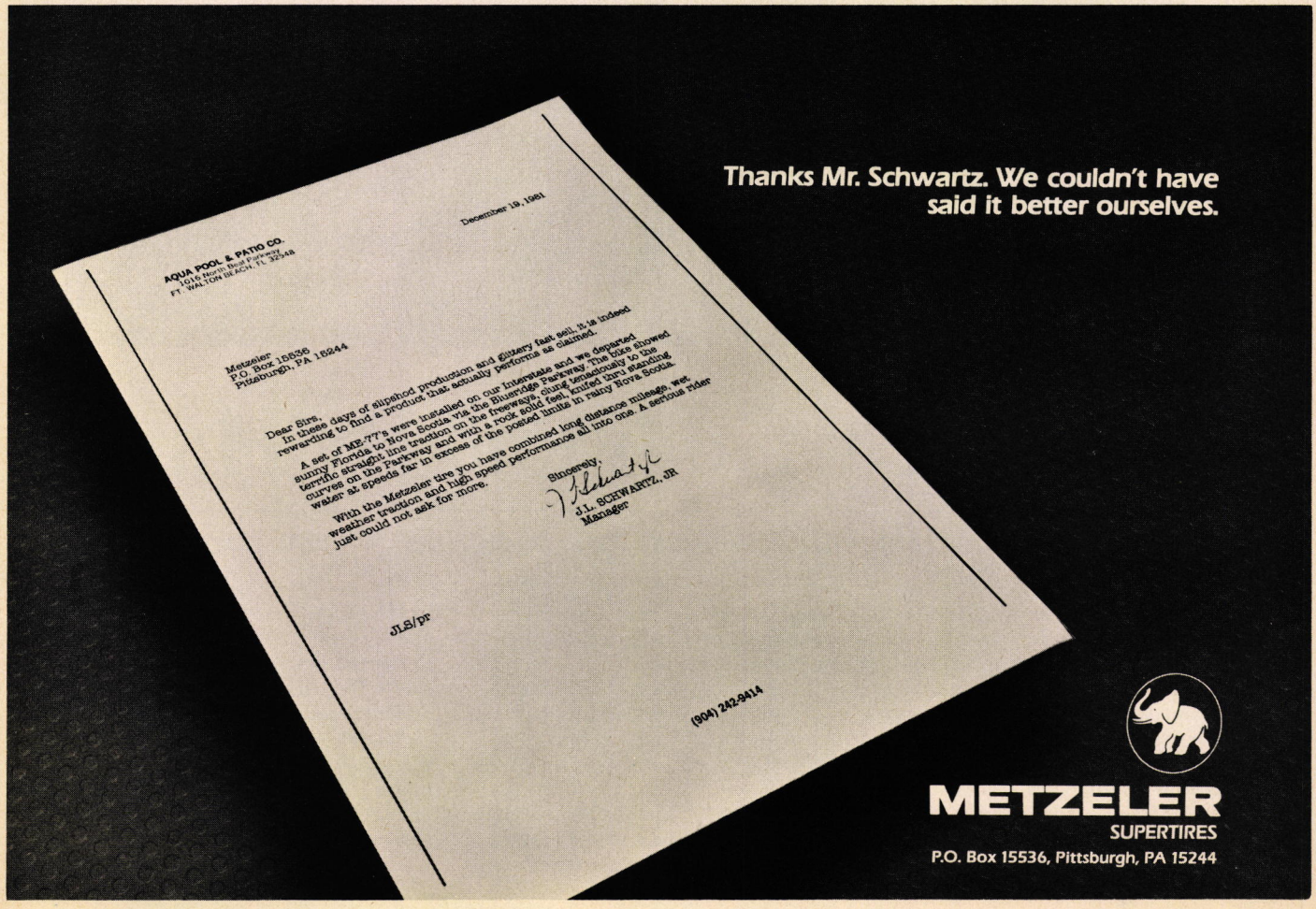
Looking back at cast-iron times.

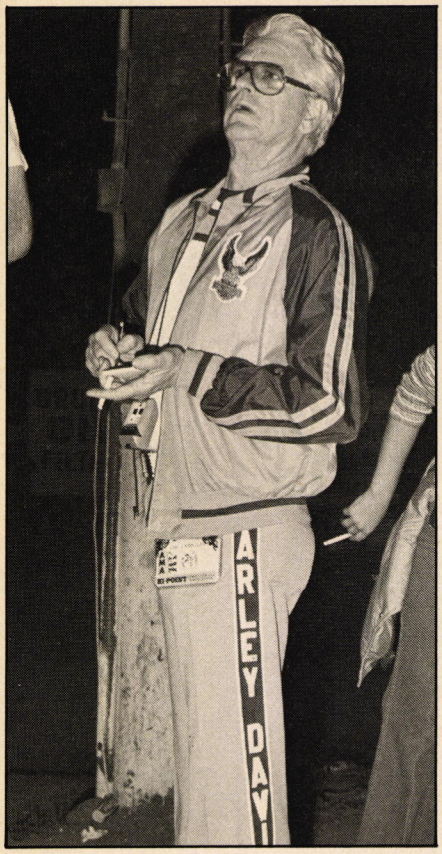
It was common knowledge in the racing world that the new XR was going to be a vee-twin. Everybody outside of Harley-Davidson wondered if the guys in Milwaukee were building the engine that way out of stubborn pride, or because a vee-twin was, indeed, more suitable for oval racing. It was a question worth asking, because 1969 was the year Honda, Kawasaki and Triumph/BSA introduced their fours and triples.

But Harley-Davidson stuck to its vee-twin guns for several reasons. Perhaps foremost was the fact that most Harley-Davidson street bikes were based on the vee-twin design, and the racing vee fit in with sales promotion. Second, according to O'Brien, the vee-twin has the advantage over a multi because the crankcase can be narrower. Better still is the way the vee-twin's uneven firing pulses make the rear tire hook up on the dirt ovals.

The new engine was also designated the XR750. Because of extensive use of alloy parts, the project was dubbed the "aluminum engine" by those involved. The project absorbed all of 1969, '70, '71, and was ready following the 1972 Daytona 200. Subsequently Mark Brelsford won the AMA Grand National championship with it, proving once again that a vee-twin was one hell of an engine for oval racing.

The aluminum engine was itself based on the XLR-cloned iron XR750 of 1969-71 vintage. The iron engine proved a good test-bed for the aluminum engine, but was also a can of worms for racing. As OB explains, "We sort of threw together the down-sized Sportster engine for racing." The engine was heavy, and the ferrous parts couldn't dissipate enough





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Dick O'Brien oversees XR750 development

Standing like a pillar of progress.

heat. As horsepower was increased, the engine's reliability decreased at a disproportionate rate.

The Ferrous Flyer wasn't in vain, and many valuable lessons learned from it were applied to the aluminum engine. Consequently, when the new XR hit the beach, many problems that typically plague new engines didn't exist in the alloy motor. O'Brien proudly reflects back to the 1972 inaugural year: "There were basically only two problems we encountered with it (the aluminum engine). The main bearings weren't strong enough, so we went to a tougher material, and the exhaust cam was too rash. Once those were cured, we had no real teething problems. Without the iron engine, the aluminum engine wouldn't have been so good as early as it was." The rest is history.

O'Brien boasts that the 1982 engine is very similar to what rolled onto the grid in 1972. "We've made updates," O'Brien says, "including cams, larger ports and valves, and different rocker arm angles. But on the whole, this is a 1972 motor. It's a good engine."

By typical race standards, that sounds like a standstill in technology. But when you consider that there are two more vee-twins pounding on the XR750's door—Yamaha and Honda are up to their canted cylinders in Class C racing—it looks like Harley-Davidson had the right idea more than 10 years ago. And according to the KR750 side-valver's legacy, the aluminum engine has several more years to go. *—Dain Gingerelli*

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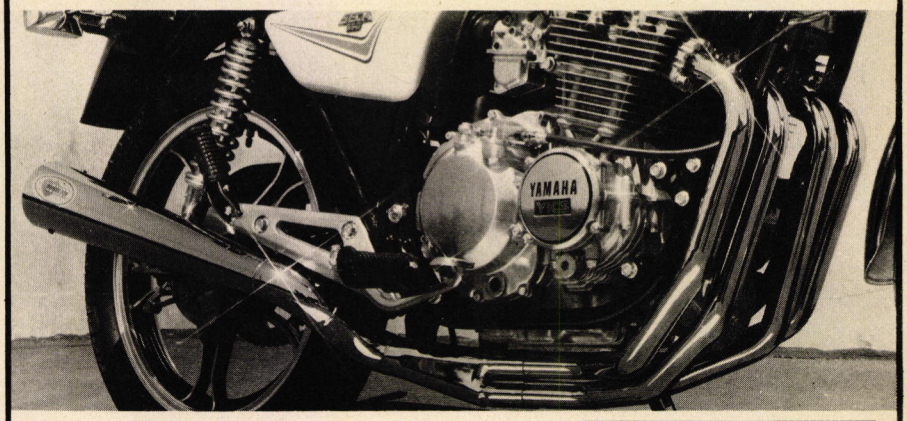

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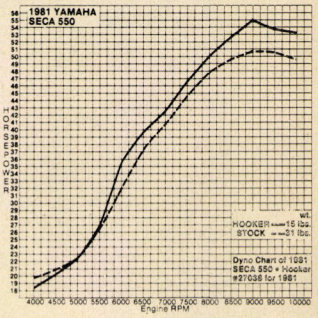

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Cal Rayborn

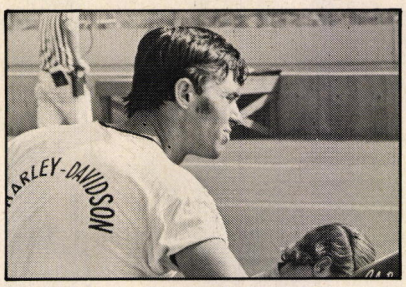
He rode hard and made roadracing look easy.

• Whenever you discuss the best American roadracers of all time, the name Calvin Rayborn is mentioned. Rayborn won 10 AMA National roadraces, including back-to-back Daytona 200s in 1968-69 for Harley-Davidson.

More impressive than his wins was his style of racing. Dick O'Brien, who perhaps knew Rayborn's racing prowess better than anybody, said of him, "He was one of the best roadracers in the world. He had an advantage over anybody—other than maybe Mike Hailwood—on slow corners. Guys could stay with him in the sweepers, but when it came to slow turns, Cal could do things with a bike no other rider could." He added with a chuckle, "I always wanted to see Hailwood and Rayborn on equal bikes on the same course."

Rayborn was perhaps less emphatic about his asphalt skills. He was once asked to describe a lap around Road Atlanta, a challenging road course with blind corners and hills. He replied with an answer as humble as apple pie: "First you go around this righthander and up this hill, see. Then you go right and left and right and left down this hill, see. Then you go up another hill and around a sharp right into a rolling straight, then down a hill and onto the main straight. See, nothin' to it." As long as you were Cal Rayborn, anyway.

One of Rayborn's greatest moments was the 1972 Trans-Atlantic Match Race Series in England, where he won three of six races to tie Ray Pickerell for first-place honors. Rayborn brought only the cast-iron XR750, some spare parts and his mechanic Walter Folk for the six-race series. As OB tells it, "He rode the iron engine, which had a pretty short fuse. They took over what they thought would be enough parts for the Easter Match



Humble thoughts on the pit wall

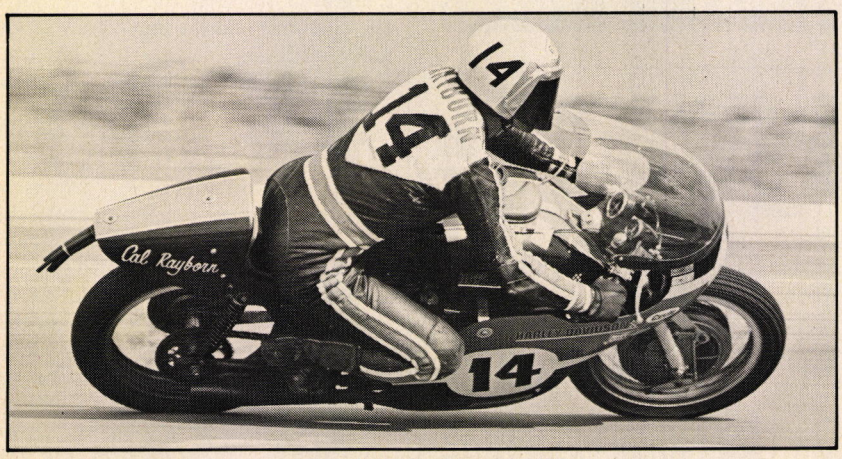
But he took no prisoners.

Series, but as it turned out, they needed more. So Cal kept practice to a minimum, and Walter rebuilt the engine in the back of the van while Cal drove to the next race. It was a good show—a damn good mechanic and a damn good rider. They showed 'em that America can haul ass roadracing."

Rayborn was killed the following winter while roadracing a Suzuki 500 in New Zealand. He had just signed to ride for Suzuki for the 1973 season, and was on a business trip in New Zealand to sell his racecar. OB visited him just before he left: "I remember we talked about him not racing (bikes or cars) down there." The Suzuki 500 ride was offered him as a last-minute deal, and he accepted. The engine seized in a fast turn.

Harley-Davidson eventually donated Rayborn's Trans-Atlantic bike to the AMA, where it is on display in the Westerville, Ohio offices. The alloy XR750 Rayborn used to win his final two roadraces—Indianapolis and Laguna Seca in 1972—is owned by O'Brien. "That machine is *mine*," O'Brien states flatly.

Sorry, O'Brien, but it's all of ours. Just like Rayborn was. —*Dain Gingerelli*



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Cal Rayborn on the Ferrous Flyer XR750 at Ontario 1971

Awaiting the Aluminum engine while roadracing a cast-iron pot.

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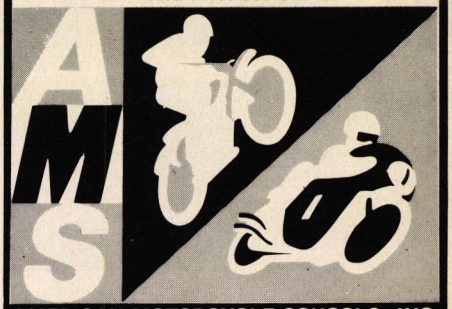

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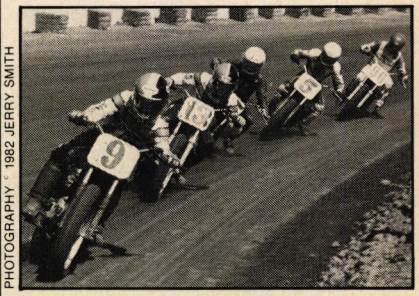

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Freight-training at San Jose

Fast riders in the groove.

• Ask just about any flattrack tuner who prepares an XR750 and he'll tell you there's more to tuning one of these vee-twins than changing plugs and tires. And ask any rider, too; he'll tell you there's more to an oval track than two half-circle turns that connect the front and back straights.

This explains why the XR750s on the grid for a Class C flattrack race reflect the race-day personalities of the rider, tuner *and* track. Trying to define what each rider—and tuner—prefers for a given XR750 is like counting the angels on the head of a pin. Each rider/tuner tandem has opinions on how to synchronize the bike's mechanicals and a rider's style to the track. Tuners especially have their litlte secrets of what goes into an XR750 engine so that what comes out is bigger and better than the other bikes on the grid.

But there are some XR750-preparation conclusions that can be made using certain tracks' characteristics for reference. As an example, look at two West Coast ovals, the Ascot Half-Mile in Southern California and the San Jose Mile 400 miles north.

XR750 preparation is governed not so much by the length of the track, but by the track surface. For instance, Ascot is known as a "cushion" track. The surface affords traction practically anywhere through the turns, so riders can take the high line—or cush—as well as the preferable tight line. That's why there's good passing in the turns at tracks like Ascot.

Basically, most XR tuners follow this rule for cushion-track tuning: The wheelbase is lengthened so the bike can assume a "slideways" attitude through the turns. Slideways is slang for drifting through the turns with the power turned on. And with Ascot's cushion, that's fairly easy to do. With all that traction, the bike can be

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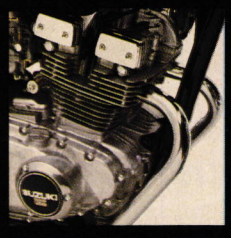

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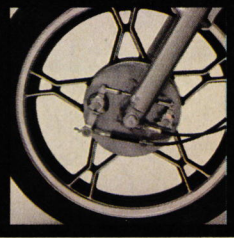

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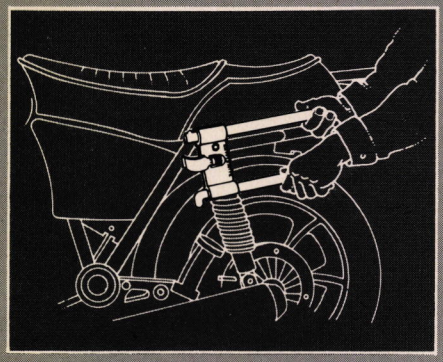

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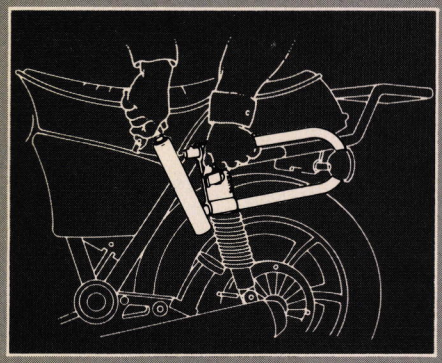

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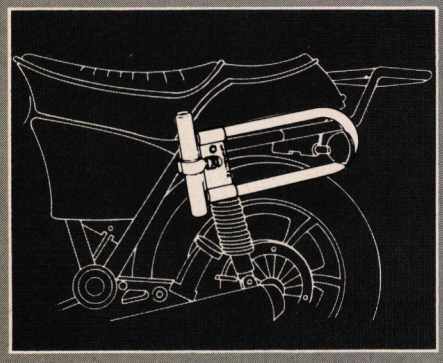

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A tuner arming an XR750 for combat

Leave no motorcycle unturned.

leaned *way* to the left, and so some tuners modify the left-side clutch cover so it won't drag.

Fittingly, the engine is tuned for a broad powerband. Essentially this is accomplished using long intake manifolds and shorter-than-usual exhaust pipes. Some tuners broach the horsepower spectrum by upping the compression ratio and reducing valve overlap so rear-wheel power delivery is quicker.

As a rule, tuners reverse all these procedures for San Jose. The Mile, as San Jose is often referred to by the Class C crowd, is what's known as a "groove" track. Traction is usually limited to a narrow single-bike groove through the turns, which accounts for the freight-train effect at this classic. But what's really unique about The Mile is its appetite for tires. The hard track surface generally limits tire life to no more than 25 laps—the length of the main.

These are just a few of the special quirks a track brings out in an XR750. When you throw in the third variable, rider preference and style, you better understand the pressure the tuner faces to make one of these Milwaukee twins a winner. So if you've been asking why some dirttrack tuners have grey hair, maybe instead, you should be asking why more don't.

—Jerry Smith

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The rider is the third variable

A mechanic's wrench won't help.

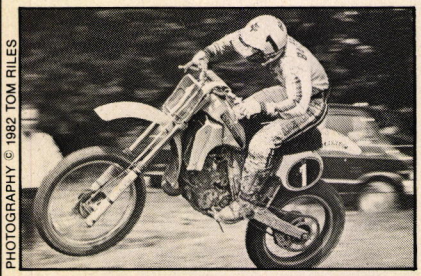
Pit Bits

• The FIM has altered the rules for endurance roadracing to allow three, instead of two, riders per bike. With the increasing speeds of the 1000cc racers, many teams asked for the change long ago. The FIM Congress finally voted in favor of the rule last winter. The **Imola 24 Hour** kicks off the endurance season on May 15-16.

• And while the conservative wheels of the FIM slowly roll forward, our own symbol of reactionary racing, **Harley-Davidson**, may soon do a little updating with its program. Don't be surprised if the Milwaukee Rock decides to go **roadracing**, maybe even as soon as 1983. Although there has been no formal announcement, or for that matter any evidence of testing a roadracer, Dick O'Brien has made it known he'd love to get his riders back on the macadam. **"We're ready** in the racing department," says OB, "to go roadracing." With the new **Superbike** displacement limit of 750cc (multis will be limited to 750cc, twins to 1000cc) for 1983, you have to wonder if Harley-Davidson will come out with an XR750-based Sportster in the not-too-distant future.

• United States Trials Champion Curt **Comer** has signed with Montesa for 1982. Comer, who is also a sales representative for Cosmopolitan Motors, the U.S. importers of **Montesa**, also has plans for the Scottish Six Day Trial.

• Husqvarna has signed Marke Hyde to team with **Dick Burleson** for the enduro season. Burleson said of Hyde, "Mark is fast, very enthusiastic and his attitude is great." He added about Husky's ongoing involvement with enduro competition, a sport which some of the Big Four have labeled too expensive to support for the payback it gives. "We (Husqvarna) are enthusiasts ourselves. It's no secret that enduro racing has a low return on investment compared to stadiumcross, which draws up to **50,000 spectators**. But it's (enduro) a sport which anyone can participate in and be competitive. It's a tradition with our company that we just won't give up."



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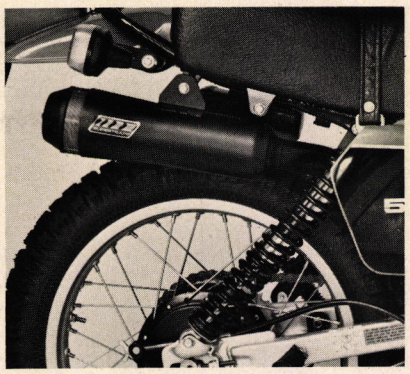
Mark Barnett remains with Suzuki

Settling down for another year.

Continued

The Sound Solution



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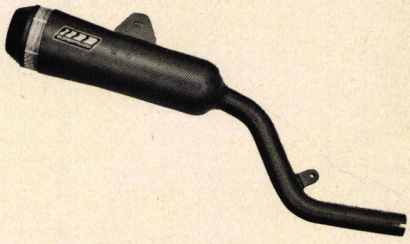

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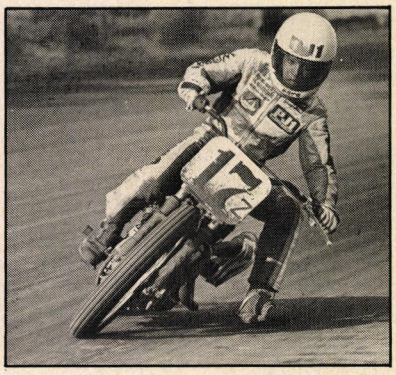
It's also a winning tradition.

• While Husqvarna plugs onward in the enduro world, **Suzuki** shores up its motocross forces with several new riders. Teaming with Mark Barnett (125cc Nationals) and Kent Howerton (250cc Nationals) will be Warren **Reid**, Denny **Bently**, Alan **King** and George **Holland**. At 16 years old, Holland is the youngest rider ever to sign for Suzuki. By comparison, Bently is a wisened old man of 17.

• Yamaha was busy with the pen and paper this winter, too. **Jim Filice** inked a contract with the tuning-fork company, and will ride an XV750 on the oval tracks and both an **YZR500** and TZ250 at the AMA roadrace Nationals.

• Looking at Filice's track record with Yamaha, you could almost figure him a shoe-in to win the **Winston Pro Series** 12.6x67.10this year. He began his involvement with Yamaha in 1979 when he



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Jim Filice signed with Yamaha

There's no XR750 for him this year.

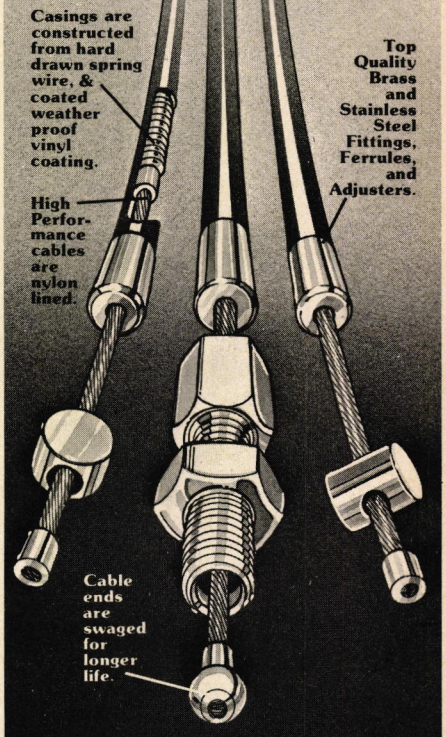
was high-point novice, continued in 1980 as Junior National Champ, and completed 1981 as the Winston Pro Series Rookie-of-the-Year. The next obvious step is **1982** Grand National **Champ**.

• As we swing across the Great American Paddock, things are really bustling in the **Honda** pit. American Honda's racing ventures will be directed by Toshiro Kezuka, formerly in charge of CR motocrosser production in Japan. Kezuka said before the season got started, "It is my goal to put all three programs (motocross, flattracking and roadracing) on an equal footing." Kezuka didn't specify whether the equal footing was with one another or with the rest of the racing world. Reviewing 1981, Honda didn't win any U.S. **motocross** championships, **failed** miserably at flattracking, and lost the Superbike title to Kawasaki.

Honda's motocross forces are led by Chuck **Sun**, who will contest the 500cc Nationals and Supercross series. Also

Continued

TUG -A- WAR



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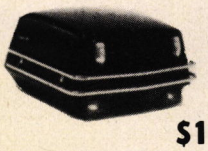

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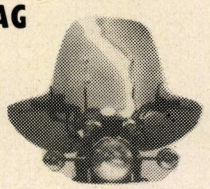
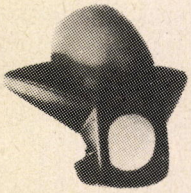


Fairing Style Windshield with universal mounts to fit most major model motorcycles. Available in clear or smoke. Provides protection from the cold winter winds. 3/16" thick.

$39.95 Clear **$44.95** Smoke



This "QT" fairing is molded from plastic and available in primer. Comes with smoke shield and universal mounts to fit all popular motorcycles.

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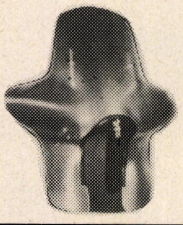

Deluxe Fairing Style Windshield with added leg protection from the wind. Universal mounts to fit most model motorcycles. Available in clear or smoke. 3/16" thick. Round or square headlight styles.

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Cafe Fairing with style. Comes in white or black with smoke or clear shield. Made from ABS plastic and universal mounts to fit all popular motorcycles. 7" headlight hole.

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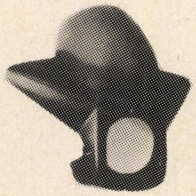

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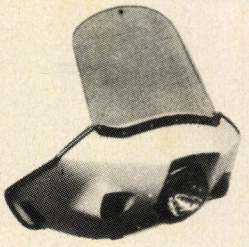

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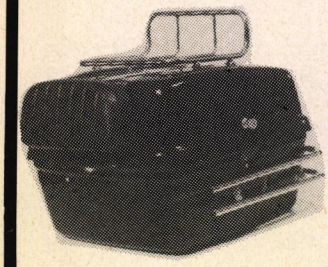

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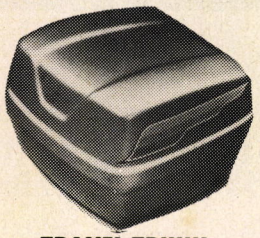

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Chuck Sun represents Honda

Honda's number-one son.

returning are Johnny **O'Mara** (125), Donnie **Hansen** (250) and Jim **Gibson** (500). Joining the team will be Darrel **Shultz** (250), Brian **Myerscough** (125) and David **Bailey** (250).

The roadrace team lost perhaps one of the best American pavement-pounders around when Freddie Spencer packed his leathers and passport to race Honda's NS500 two-stroke GP bike in Europe this year. But as compensation, **Mike Baldwin** was pulled from Honda France's endurance team to join American Honda's Superbike and F1 efforts. Baldwin was considered the **rising star** of 1979 until a crash at Daytona sidelined him for more than a year. He will have Roberto Pietri as wingman, with Steve **Wise** on the grid as part of American Honda's roadrace rider support program. Wise decided to trade his knobbies for slicks after the Superbikers race last October.

Honda also signed the best rider available for its flattrack team. The best is No. 1 Mike **Kidd**. His teammate will be fellow Texan and first-year expert Billy **Herndon**. Herndon's credentials include being top junior for 1981. Kidd was backed up by another junior champion, Jim Filice in 1981, so Honda's hoping the new Lone Star duo will be effective for 1982.

The oval track crew is confident, despite a dismal 1981 season with the **NS750**. Flattrack team coordinator Jerry Griffith said, "I really believe we're the team to beat this year." Talk is **cheap**. Seeing is believing.

—Dain Gingerelli

Continued

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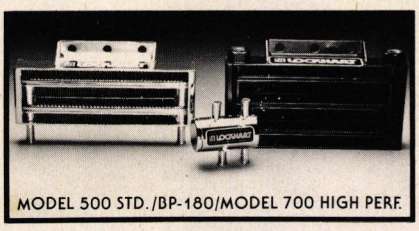
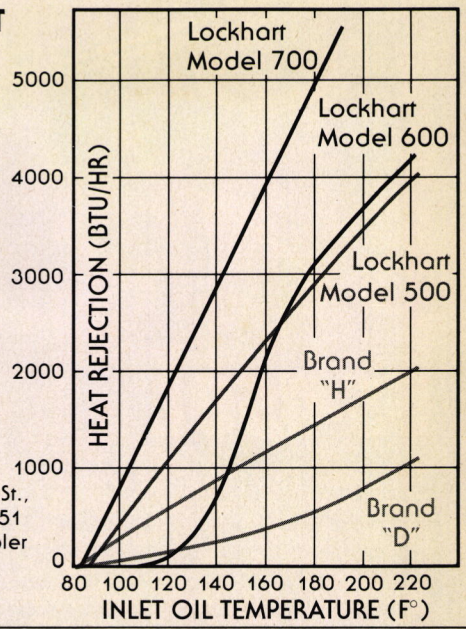


MODEL 500 STD./BP-180/MODEL 700 HIGH PERF.



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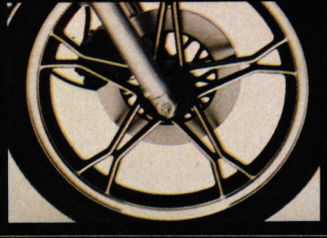
Potent DOHC engine: Delivers performance and fuel efficiency. Features gear-driven counterbalancer for extra smoothness.

Front disc brake: A standard feature, along with new-style mag-type wheels.



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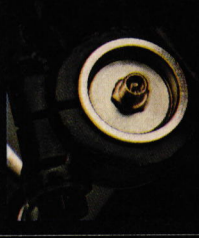

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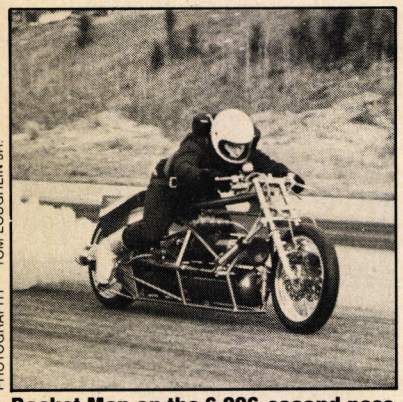

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Rocket Man on the 6.996-second pass

Singing "Vapor Trails To You."

• John Dixon became the first man to make a six-second run in the quarter-mile on a motorcycle. He did it on a twin-rocket-powered bike he built. That's incredible, you say? Well, it is, especially since Dixon made the pass specifically for the "That's Incredible" TV show.

Dixon got sanction from the DRAG-BIKE organization to run at Cumberland International Raceway in North Carolina, then loaded his bike with rocket fuel for the attempt. The subsequent run—only the eighth for Dixon on his rocketbike—produced an ET of 6.996 seconds with a terminal speed of only 161 miles per hour.

Dixon's Six is not a record, however, since he failed to make a back-up run with an ET of 10% or less of the 6.996. But it *was* the first sub-seven-second run, and for Dixon that's important. Dixon is more than a racer, he's a showman, and Barnum & Bailey antics are worth more to him than records.

Dixon's professional dragracing career began in the early Seventies, when he competed in the top fuel ranks with a nitro-burning Harley-Davidson. But as most top fuel racers will tell you, that was a time when the payback in motorcycle dragracing was slim.

So Dixon looked for better ways to earn a buck, yet remain in dragracing: The solution was to ride something that was sensational for spectators so he could make exhibition runs rather than dogfight in the top fuel elimination brackets. His new-

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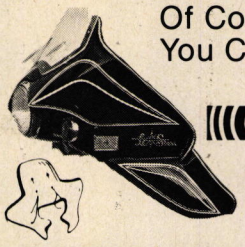

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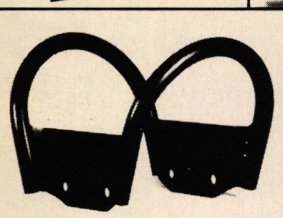

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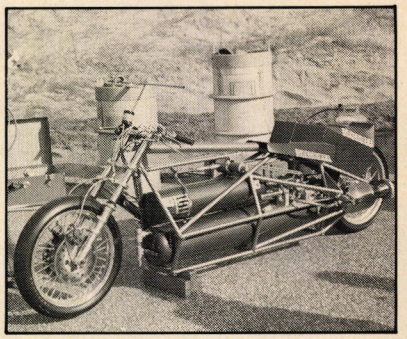

Dixon's dual-engined dragbike

Tandem rockets for a single record.

found act featured a dragbike powered by a V-8 automobile engine. "It was a real crowd-pleaser," Dixon admits. "But it wasn't reliable. And when it didn't run, I didn't make money." The top-fuel-racer-turned-exhibition-runner found himself back at square one.

He then looked for something just as exciting for the spectators to watch, but with more reliability—so he could remain employed. Enter the rocketbike. Dixon states matter-of-factly about the rocketbike: "Reliability—I wanted to go as fast as I could without breaking parts. So I built the rocketbike."

Dixon spent eight months building the Six Second Wonder, which is powered by two hydrogen-peroxide-burning rockets originally designed as boosters for military aircraft.

The bike had only seven shakedown runs prior to the call from *That's Incredible*. In fact, Dixon and his rocketbike had cracked into the sevens only twice during those seven trial runs. Prior to that, Dixon's best quarter-mile run ever was an 8.19, on an internal combustion-powered bike, not the rocket.

The six-second run required 40 percent power from the two rockets. Oddly, according to internal combustion engine techniques, anyway, Dixon shut the power off at about the 700-foot mark, and coasted the remaining 620 feet. As he explains, the rocket engines generate so much force that the motorcycle's speed will increase at such a rapid rate that he could easily lose control before the end of the run. The speed more than the E.T. suffers from premature shutdown, thus explaining the nonsensational 161 mph for the 6.996-second run.

In any case, Dixon figures he can break into the fives with the bike "sometime this season." He has further development to do for the engines, but once he can control the boost from the rockets better, E.T.s will drop and mph will rise. He says: "That first 50 feet (off the line) kills the E.T. But it's the high-speed tuning that's the problem." Dixon intends to incorporate a system of valves to help regulate the fuel flow,

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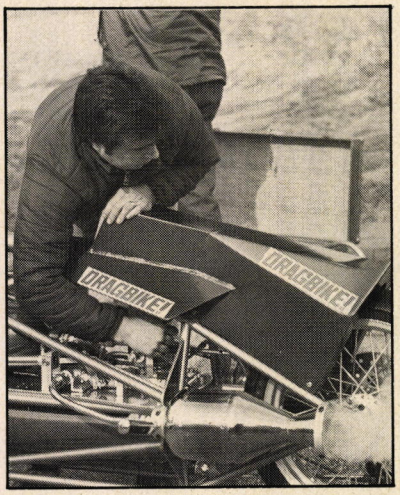


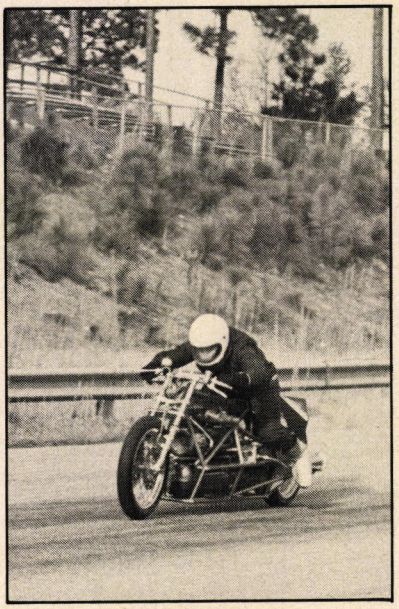
Rocket Man adjusting the retros

The six-second morale booster.

thereby helping to move the bike off the line better, while not losing speed from early shutdown.

Once he has the high-speed system worked out, he plans to make a 200-mph pass. To do this, he says, he'll actually have to go about 240 mph "somewhere before the 1000-foot mark," leaving the remaining 320 feet to lose only 40 mph. Rocketbikes lose their momentum the instant power is cut, so the speed through the lights is not necessarily the top speed at peak power during the run. Necessary power for the 200-mph run: "about 50 percent."

So while Dixon fiddles with his rocketbike to cut deeper into the fives, and ultimately crank out the first-ever 200-mph run, he has the distinction of being the first man into the sixes. Now that's incredible enough. —*Dain Gingerelli* ●



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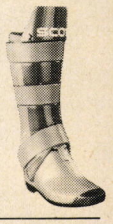

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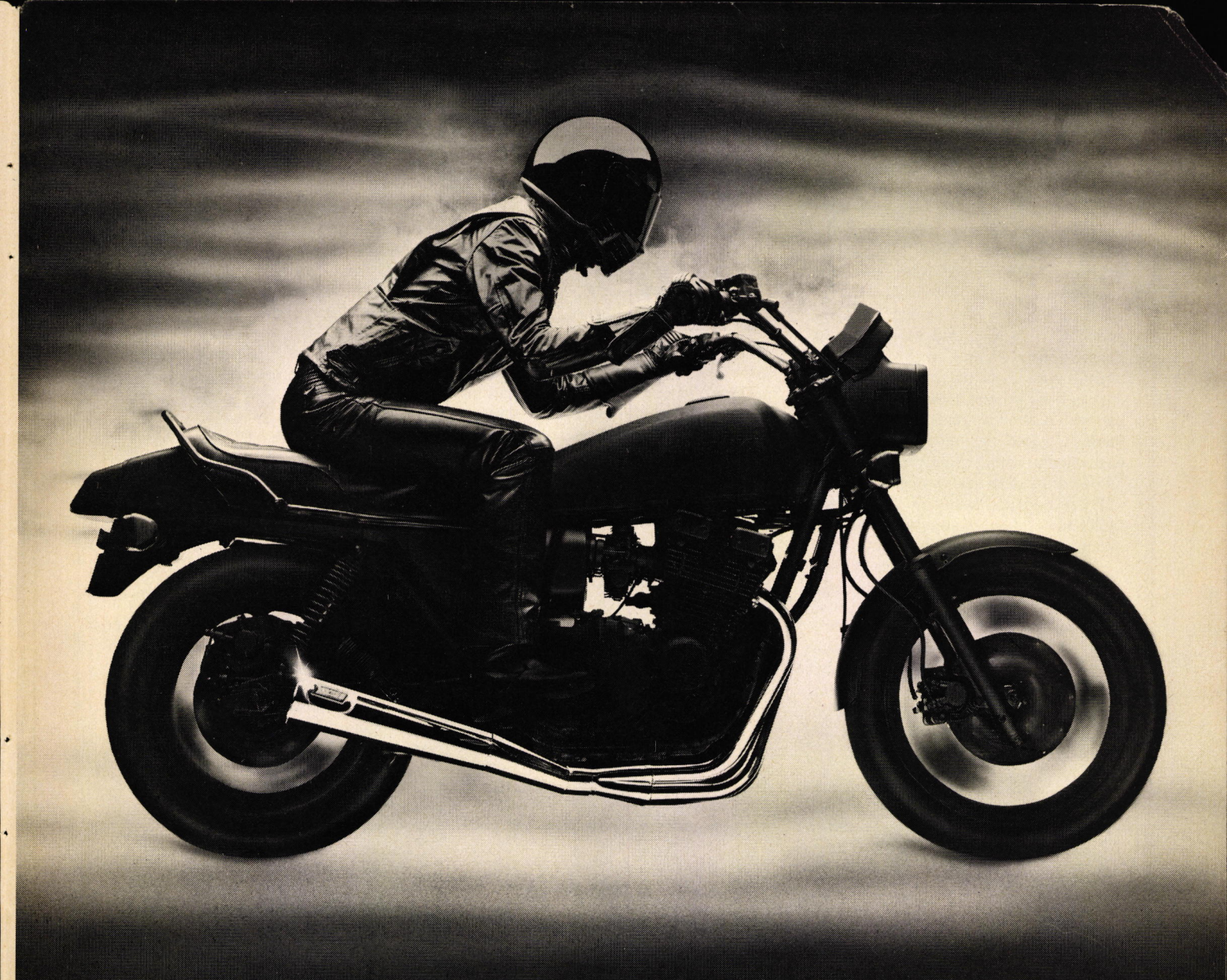

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George Hansen
Muskegon, Michigan

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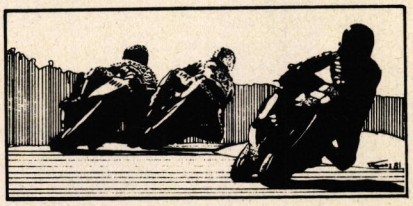

sorry that I didn't. It just might be that all those people did have an effect on the machine's release for U.S. sale. I hate to think that I was one of those who sat back and said, "They don't care what I think." I'd just like to thank you for showing us the machine, and for giving us the opportunity to speak out for what we want, even though we don't all use the chance. If you really want a kick in the seat, check back to your February 1981 issue. In the letters column, Paul D. Siemens makes a statement about what he wanted Yamaha to do. I guess he got his wish! Now, all I have to do is decide what I really want. Maybe an XV920 with a shaft drive? How about an XR750 street bike from Harley-Davidson? Or . . .?

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Contents

VOL. 17 NO. 4 APRIL 1982

SPECIAL EDITION: HELMETS FOR EVERY OCCASION

99 GETTING INTO HEADGEAR *why you should care, what to look for*
101 MOTO-HABERDASHER'S CATALOG *the complete list of lids*

TESTS

55 HONDA GL1100A ASPENCADE *irrefutable proof that you can take it with you*—**by Larry Works**
60 TUNED FOR COMFORT *long-haul listening*—**by David Dewhurst**
63 MINITEST: HONDA GL1100 GOLD WING *the bungee-cord alternative*—**by Don Fuller**
64 MINITEST: HONDA GL1100 INTERSTATE *still in the top two of turn-key tourers*—**by Dain Gingerelli**
66 BMW R65LS *Bavarian window-dressing or the real stuff?* —**by Steve Thompson**

OPEN WARFARE

84 BIG-BORE MX SHOOTOUT: HONDA CR480R, SUZUKI RM465, YAMAHA YZ490 *comparocross, size Extra-Large*—**by Ron Lawson**
86 TECH INSPECTION *X-ray look at the combatants*—**by David Dewhurst**
92 WHICH WILL WIN? *any one will win; one will win more* —**by Ron Lawson**

PRODUCT EVALUATION

80 AXO BOOTS *offspring of a mixed motomarriage*—**by Ron Lawson**

GUIDE LINES

25 COMING SOON *Husqvarna three-wheeler, Moto Guzzi V65SP*
49 RUMORS *what do you mean, you've never heard of a Honda VT250?*

SPORT LINES

117 BY GOSH, BY GOLLY AND BY HARLEY *life and times of the XR750*
124 HARLEY HORSEPOWER *tuning tricks from the roundy-rounders*
127 PIT BITS *Pony Express endurance racing, pen-and-ink infighting*
135 WINNERS & LOSERS *Rocket Man*

COLUMNS & DEPTS

4 CYCLE GUIDE'S Cycle Guide *just the facts, ma'am*
12 EDITORIAL *return to the U-tune-it motorcycle*
14 THOMPSON AT LARGE *wet-weather wisdom*
22 TECHSPEAK *synthetic oils, genuine lubrication*
21 SETTING IT RIGHT *revisionist truths of the Sunday morning ride*
140 LETTERS *refugees from the round file*

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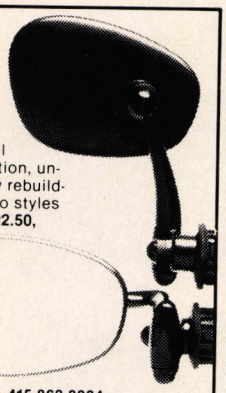

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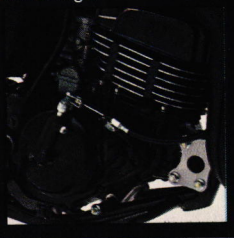

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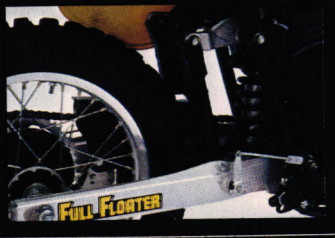

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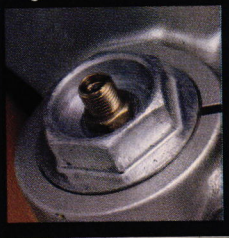

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You wouldn't happen to have an opening for a test rider on the Aspencade, would you? What are the chances of trading a chauffeur for a cruise control mounted on the pod where the suspension system controls reside?

Duane Davis
Tucson, Arizona

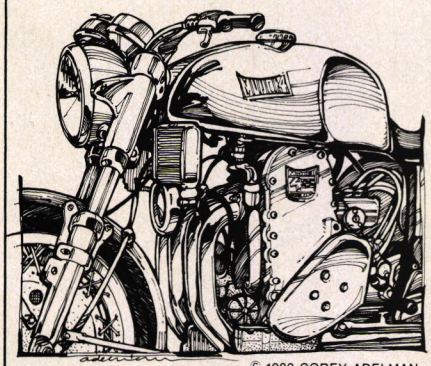
Wonderful idea. Say, you must be in agony waiting for that test, huh?—ed.

THOMPS' TROOPS

Being slightly behind in my reading, I just read Steve Thompson's "Riding vs. Running" in your November issue. I have sought to express to friends and associates the "head" experience that I believe to be an integral part of motorcycling. But now Thompson has put it in print. I couldn't have said it any better. I shall now carefully file the article—or perhaps even frame it.

Tom Foster
Ottawa, Ontario, Canada

I would like at the very start to tell you that I want a subscription to Cycle Guide. You know why? Steve Thompson. His piece in the January issue, "To BMW or Not to BMW" is on the money. He managed to put down on paper my own thoughts, facts and feelings on BMWness. Your three BMW tests in the last 12 months isn't a bad record, though naturally it could be better for us BMW fanatics out here. I hope that this letter will help Thompson survive the flak he'll probably get from the non-BMWing public. If you promise to keep him around, I'll promise to renew my subscription, because with him around there's still hope for BMW riders. Remember, if you live a good life and say your prayers at night, when you die you'll get to go to heaven on a BMW.



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Sonny Dryer
Overland Park, Kansas

Not to worry about flak. Thompson practically lives in a flak jacket—ed. •

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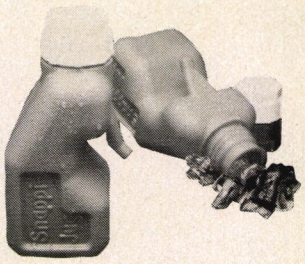

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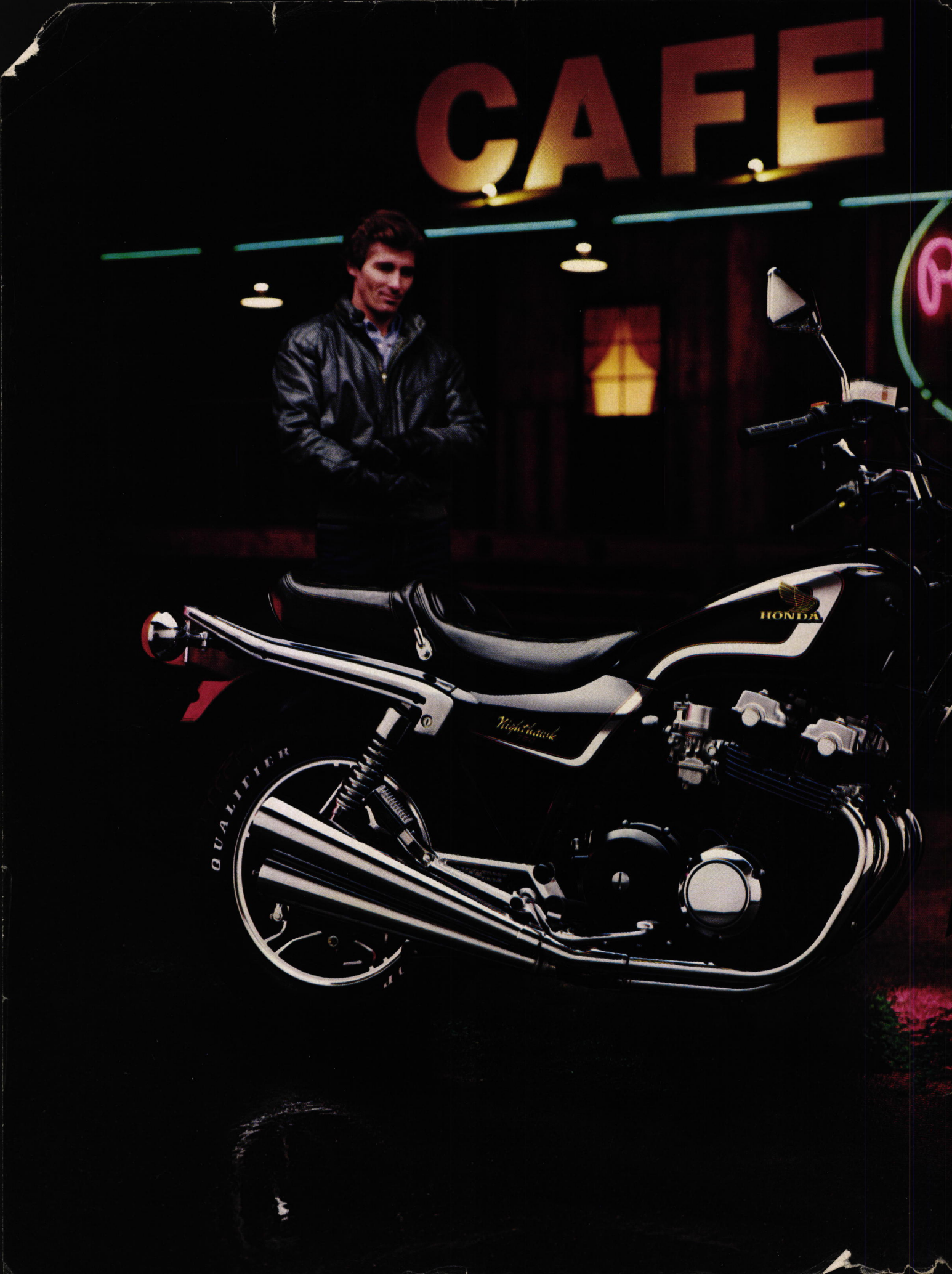
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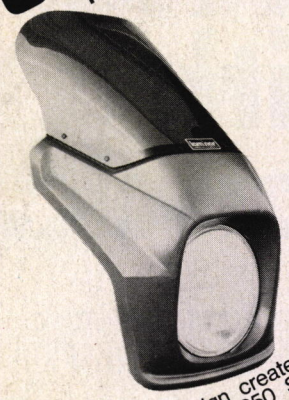

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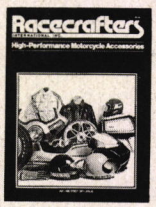

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Beach's Motorcycle Adventures	143
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Cycle Sound Systems	65
Cycle Sports & Service	146
DFW Imports	143
Dairyland Insurance	129
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Derale Oil Coolers	13
Drag Specialties	18
Dunlop Tires	36-37
Eastern Cycle Salvage Inc.	143
Expert Cycle Inc.	146
Fastline Cycle Sales	119
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Haynes Workshop Manuals	40
Honda/Kawasaki of Irwin	143
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Jim Hunter M/C Repair, Inc.	141
IBCO	116
IRC/Inoue Rubber Co.	52
JMR Motorcycles	146
Jet Distributing	141
Johar of California	136
The Jones Optical Company	28
KBL Corp.	126
KRW Helmets	50
KV Products	28
Kal-Gard Coating & Mfg. Co.	29
Kawasaki Motors Corp.	26-27, 34-35
Dennis Kirk, Inc.	127
Kiwi Helmets	124
Laminar Inc.	146
Lee's Rider & Cycle Access.	135
Lockhart Consumer Products	133
Metzeler Supertires	118
Moto-Race	38
Moores Cycle Supply	143
Motorcycle Mechanics Institute	126
NEP Sales Inc.	143
North Amer. School M/C Repair	135
PJ-1 Corp.	141
Pacifico, Inc.	15
Phantom Rider	124
Powroll Performance Products	133
Racecrafters Int'l., Inc.	146
Racers Supply	141
Russell Performance Products	51
S & W Eng. Prod.	122
Shoei	Cov. 3
Simpson Sports	98
Stop & Go Int'l.	141
SuperTrapp	127
U.S. Suzuki Motor Corp.	16-17, 32-33, 53, 83, 90-91, 125, 134, 142
The Ultimate Source	136
Vance & Hines	139
Vetter Corp.	Cov. 2-3, 6, Cov. 4
Wheels of Man	137
Wiseco Piston Inc.	24
Yamaha Motor Corp.	41-48, 79, 103-110
Yamaha YPDI	73-78
Yankee Cycle	141
Yoshimura R & D of America	81
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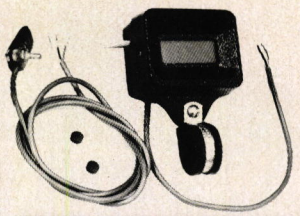

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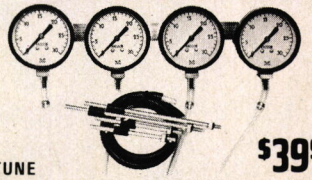

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